ARMED FORCES INSTITUTE OF PATHOLOGY

ANNUAL REPORT

2003

2003 ANNUAL REPORT

Armed Forces Institute of Pathology
Washington, DC 20306-6000

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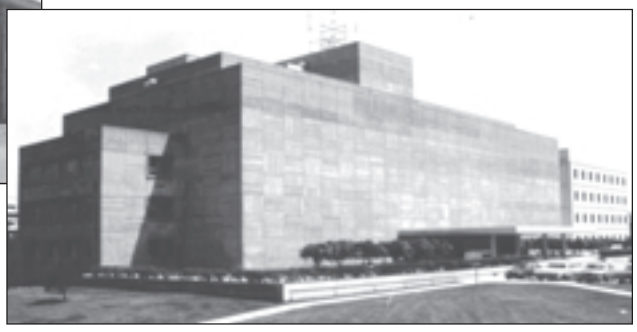
Riggs Bank Building, Pennsylvania Ave. and 15th St., NW, 1862–1863

180 Pennsylvania Ave., NW, 1863

Corcoran Schoolhouse, 1325 H Street, NW, 1863–1866

Ford's Theatre, 511 10th St., NW, 1866–1887

The "Old Red Brick," 7th St. and Independence Ave., SW, 1888–1954



Home of the AFIP on the grounds of Walter Reed Army Medical Center since 1955

Mission

The Armed Forces Institute of Pathology supports the United States Department of Defense and serves the American people by providing medical expertise in diagnostic consultation, education, and research to enhance the health and well being of the nation.

Vision

The foremost pathology knowledge center, combating disease through:

Authoritative diagnosis
Future focus
Innovative research
Preeminent education

Guiding Principles

Patient comes first
Integrity/honesty
Professionalism
Excellence
Teamwork

Goals

1. PERFORMANCE—An Institute that clearly pursues, establishes, and preserves world-class performance based on access, quality, and cost.
2. RECRUITMENT & RETENTION—An atmosphere of personal and professional growth that recruits, develops, and retains innovative, creative people and renowned leaders.
3. OPERATIONS—An efficient work environment in a central location that fosters trust and collaboration, mission focus.
4. READINESS—A tri-service, interactive Institute recognized nationally for its distinguished contributions to the medical services and mission readiness of the Armed Forces through scientific discoveries, consultations, education and training, investigations, and research and development.
5. COLLABORATIONS—An Institute that actively promotes formal collaborative projects, programs, and processes that benefit the Armed Forces and the nation with government, academia, industry, and worldwide partnerships with a combined commitment to stewardship.

The AFIP Annual Report 2003 is a production of the Center for Scientific Publications.

Fran Card—production and graphic design

Bonnie Casey—editor

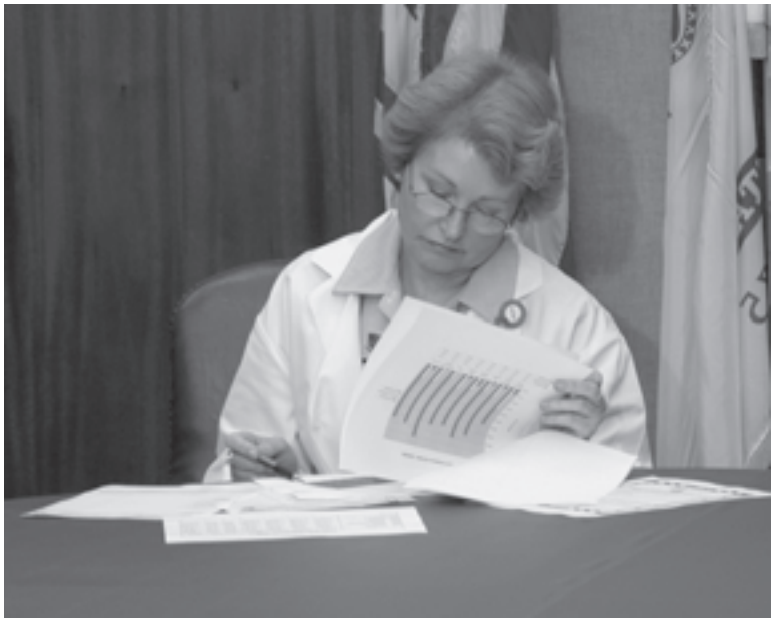
Photo credits: Andy Morataya, Veronica Ferris, and AFIP Photography Branch photographers; Fran Card; and Armed Forces Medical Examiner photographers.

DIRECTOR'S MESSAGE

Next year, the AFIP will begin to implement an extensive business and transformation plan. The plan is multipronged and includes using the most effective methods available to share the AFIP's expertise with the military medical community. With this goal in mind, the AFIP has identified the resources needed to accomplish our military and civilian missions, and will concurrently right-size and streamline our efforts in order to accomplish those missions in the most cost-effective and resource-efficient ways possible.

The AFIP Distance Learning Advisory Group has identified several concepts that will help us improve the use of consultation as an educational tool, by delivering our expertise via the World Wide Web. We are pleased to announce a series of VTC Grand Rounds lectures. The first, in Genitourinary Pathology, is scheduled for November 6, 2003. The VTC Grand Rounds lectures will feature AFIP experts in hematopathology, orthopedic pathology, and oral pathology, all based on AFIP's superb Anatomic Pathology Course. Additionally, all current Web-based courses and all 27 seminars and workshops are available for military practitioners.

The Distance Learning Advisory Group is also assessing the feasibility of broadcasting our weekly staff conferences, various sign-out conferences, and other AFIP courses, while developing the AFIP Case of the Week for desktop publication. Each case will be selected for its value in improving quality care for problematic diagnostic cases. Each AFIP department will present at least one case per year, which will address laboratory problems and include case discussion. Future plans include developing a searchable database.



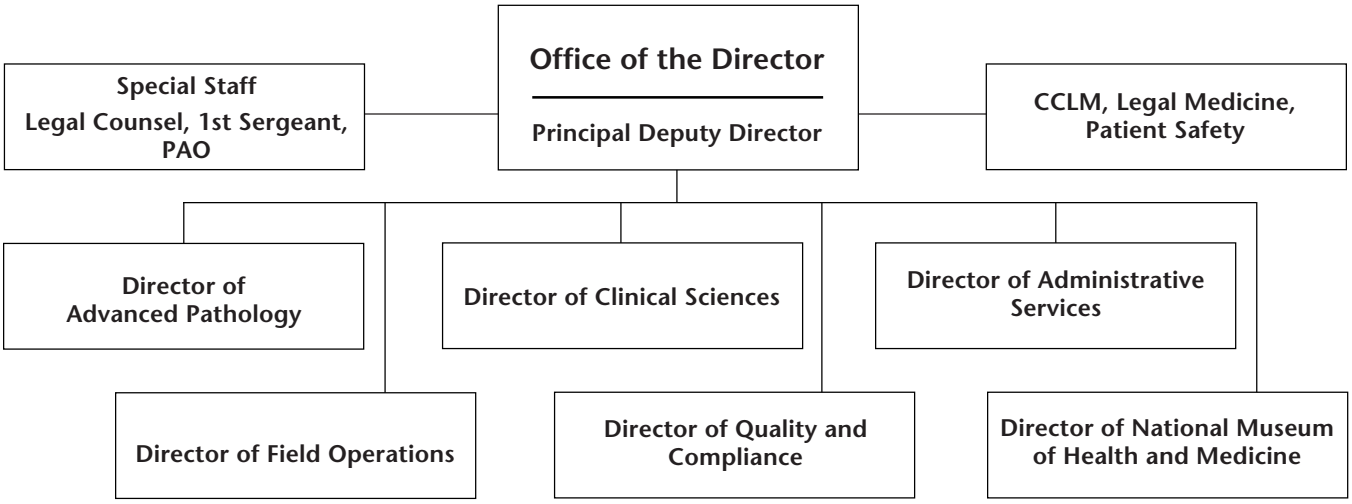
Plans for the coming months include 1) more Web-based courses, 2) CME by video teleconference, 3) more AFIP educational programs and lectures, 4) information modules on emerging diseases, and 5) online consultation reporting. We foresee making these available to the US military community, military clinicians, related specialties, other federal practitioners, and the civilian community as well.

In the coming year, we will have an opportunity to implement the plan that supports the DoD directed guidance of a more streamlined, highly functional, cost-efficient AFIP. To do this, we will create a smaller facility footprint, right-size our staff, adhere to more efficient business practices, and increase our military relevance while preserving our core functional values to the nation and the world. The business plan works to leverage our current funding mechanisms and appropriately offset them by increased civilian revenues, simultaneously refocusing on the needs of the military services and pursuing various alternatives to AFIP facility needs.

To ensure our future as the premier pathology reference center, we must take full advantage of all available new technologies in communications and diagnostics, while improving our business practices, so that we can continue to deliver a product that is second to none.

Renata B. Greenspan
COL, MC, USA
Director

Organization



AFIP Key Personnel

Renata B. Greenspan, COL, MC, USA
The Director, AFIP

Florabel G. Mullick, MD, ScD (Hon), FCAP, SES
Principal Deputy Director

Sumitra Parekh, COL, MC, USA
Director, Advanced Pathology

Charles W. Pemble III, Col, USAF, DC
Director, Field Operations
Deputy Director, Air Force

Christopher R. Owner, PhD
Director, Clinical Services

Thomas R. Himes, CAPT, MC, USN
Director, Quality and Compliance
Deputy Director, Navy

Paul Bluteau
Director, Administrative Services

Adrianne Noe, PhD
Director, National Museum of Health and Medicine, AFIP

William A. Gardner Jr, MD
Executive Director
American Registry of Pathology

Stephen W. Bross, LTC, JA, USA
Legal Counsel

Christopher C. Kelly
Public Affairs Officer

Harry W. Nash, MSgt, MSC,USA
First Sergeant

Executive Committee

Front row seated, from left: Renata B. Greenspan, COL, MC, USA, Director; Florabel G. Mullick, MD, ScD (Hon), FCAP, SES, Principal Deputy Director.

Standing, second row, Adrianne Noe, PhD, Director, National Museum of Health and Medicine; Paul Bluteau, MA, Director of Administrative Services.

Back row: Harry W. Nash, MSgt, MSC, USA, First Sergeant; Charles W. Pemble III, Col, USAF, DC, Deputy Director, Air Force, Director of Field Operations; Thomas R. Himes, CAPT, MC, USN, Director of Quality and Compliance Office; Christopher R. Owner, PhD, Director of Clinical Services.

Absent in large photo: Sumitra Parekh, COL, MC, USA, Director, Department of Advanced Pathology.

Board of Governors

The Board of Governors of the AFIP consists of the Assistant Secretary of Defense (Health Affairs), who serves as Chair of the Board; the Assistant Secretary for Health, Department of Health and Human Services; the Surgeons General of the Army, Navy, and Air Force; the Chief Medical Director for the Department of Veterans Affairs; and a former Director of the Armed Forces Institute of Pathology. The Board of Governors meets quarterly, and, based on the recommendations of the Scientific Advisory Board and institutional reports, establishes guidelines and broad administrative and professional policies in consonance with the medico-military objectives of the Institute. The Board of Governors met March 18, August 15, and December 18, 2003.

William Winkenwerder Jr, MD, MBA
Assistant Secretary of Defense for Health Affairs
Office of the Assistant Secretary of Defense for Health Affairs
Pentagon, Washington, DC

LTG James B. Peake, MC, USA
The Surgeon General
Department of the Army
Falls Church, VA

VADM Michael Cowan, MC, USN
The Surgeon General
United States Navy
Bureau of Medicine and Surgery
Washington, DC

LtGen George Peach Taylor, USAF, MC
The Surgeon General
Bolling Air Force Base
Washington, DC

Richard Carmona, MD, PhD
US Surgeon General
Department of Health and Human Services
Rockville, MD

Robert Roswell, MD
Under Secretary for Health
Department of Veterans Affairs
Washington, DC

Robert F. Karnei, MD
Wythe County Community Hospital
Wytheville, VA

Scientific Advisory Board

THE CHARTER FOR THE AFIP **Scientific Advisory Board** states that the basic term of office of civilian members shall be two years and that no civilian member may serve more than two terms in succession; it further states that terms shall be staggered to provide a rotating membership. The Board meets at the call of the Director, AFIP, to advise on scientific and technical matters. Board members are selected from outstanding specialists in their respective fields of medicine. The Board met May 22-23 and November 13-14, 2003.

Vernon W. Armbrustmacher, MD
City Medical Examiner II, Neuropathology
City of New York
Office of the Chief Medical Examiner
New York, NY

Corrie Brown, DVM
Professor and Head
Department of Veterinary Pathology
College of Veterinary Medicine
The University of Georgia
Athens, GA

Cecilia M. Fenoglio-Preiser, MD
MacKenzie Professor and Director
Department of Pathology
College of Medicine
University of Cincinnati
Cincinnati, OH

A. Julian Garvin, MD
Professor and Chair, Pathology
Wake Forest/Bowman Gray School of Medicine
Winston-Salem, NC

Jeffrey A. Kant, MD, PhD
Professor, Pathology and Human Genetics
University of Pittsburgh Medical Center
Pittsburgh, PA

Beverly P. Nelson, MD
Department of Pathology
Northwestern Memorial Hospital
Chicago, IL

William W. Olmsted, MD
Education Editor and Editor, *RadioGraphics*
Radiological Society of North America
Bethesda, MD

Joseph E. Parisi, MD
Division of Anatomic Pathology
Mayo Clinic
Rochester, MN

John E. Pless, MD
Professor of Pathology
Indiana University School of Medicine
Indianapolis, IN

Alan D. Proia, MD, PhD
Department of Pathology
Duke University Medical Center
Durham, NC

Victor E. Reuter, MD
Department of Pathology
Memorial Sloan-Kettering Cancer Center
New York, NY

Mary S. Richardson, MD
Director of Surgical Pathology
Department of Pathology and Laboratory Medicine
Medical University of South Carolina
Charleston, SC

LeRoy Riddick, MD
Regional Medical Examiner
Mobile, AL

Fred G. Silva, II, MD
US and Canadian Academy of Pathology
Augusta, GA

Stanford Stass, MD
Professor and Chair, Department of Pathology
Greenbaum Cancer Center
University of Maryland
Baltimore, MD

Patricia A. Thomas, MD
Professor and Chair of Pathology
Associate Dean, Office of Cultural Enhancement and Diversity
University of Kansas Medical Center
Kansas City, KS

Swan N. Thung, MD
Department of Pathology
Mount Sinai Medical Center
New York, NY

David H. Walker, MD
Professor and Chair, Department of Pathology
University of Texas Medical Branch
Galveston, TX

Ronald S. Weinstein, MD
Professor and Head
Department of Pathology, College of Medicine
University of Arizona College of Medicine
Tucson, AZ

Ex Officio Members of the SAB from the Federal Service

MG Kevin C. Kiley
Commander, North Atlantic Regional Medical Command
Commander, Walter Reed Army Medical Center
Washington, DC

MG Lester Martinez-Lopez
Commanding General
Medical Research & Materiel Command
Ft Detrick, MD

Col Paul B. Christianson
Vice Commander, Air Force Medical Operations Agency
Office of the Surgeon General
McLean, VA

Maj Mark P. Burton
Wilford Hall Medical Center
Department of Pathology/MTL
Lackland AFB, TX

CDR David M. Larson
US Navy Pathology Consultant
Naval Hospital Jacksonville
Jacksonville, FL

CDR William O. Rogers
Naval Medical Research Unit 3
Ghana Det
Department of State
Washington, DC

Col Thomas Burke
Program Director, Mental Health Policy
Office of the Assistant Secretary of Defense (Health Affairs)
Falls Church, VA

Robert M. Friedman, MD
Professor and Chair, Department of Pathology
Uniformed Services University of the Health Sciences
Bethesda, MD

Kenneth Olden, MD
Director, OD/NIEHS/NIH (B2-01)
Research Triangle Park, NC

Alan S. Rabson, MD
Director, Division of Cancer Biology & Diagnosis
National Cancer Institute
National Institutes of Health
Bethesda, MD

Fred H. Rodriguez, Jr, MD
Chief, Pathology and Laboratory Medicine Services
VA Medical Center
New Orleans, LA

Sherif R. Zaki, MD, PhD
Infectious Diseases Pathology
Centers for Disease Control & Prevention
Atlanta, GA

Renata B. Greenspan, COL, MC, USA
The Director
Date of Appointment — 28 May 2003

OFFICE OF THE DIRECTOR

Penny L. Rodriguez
Executive Administrator
Date of Appointment — November 1999

Dwan Soto
Secretary

The mission of the Armed Forces Institute of Pathology (AFIP) is to provide pathology expertise in consultation, education, and research in medicine, dentistry, and veterinary medicine to the Armed Services and the American public. AFIP is the pathology reference center for the departments of Defense and Veterans Affairs, and provides a wide range of products and services in association with the American Registry of Pathology (ARP).

The guiding purpose of the Office of the Director is to lead the AFIP into the future by providing the guidance, assistance, liaison, and tools the Institute needs to accomplish its mission.

Florabel G. Mullick, MD, ScD (Hon), FCAP, SES
Principal Deputy Director
Date of Appointment — 4 June 1999

OFFICE OF THE PRINCIPAL DEPUTY DIRECTOR

STAFF

Medical

Florabel G. Mullick, MD, ScD (Hon), FCAP, SES

Administrative

James Affonco, MA, Chief of Staff
Ridgely L. Rabold, AA, Executive Assistant for Programs
Hilda P. Elescano, Administrative Assistant

IMPACT

The Office of the Principal Deputy Director became fully operational as an area of executive management during 2003. During this period, all organizational elements of the AFIP were realigned and restructured into 5 Service Line Directorates under the direct supervision of the Principal Deputy Director. The Principal Deputy Director has been responsible for implementing the approved Business and Transformation Plan that sets forth a bold strategy for improving the management and performance of the AFIP. The Principal Deputy Director is tasked with focusing the Service Line Directors on the framework for achieving the Director's vision for an Institute that is military-relevant, results-oriented, and market-based.

Strategic planning, a return to basic core values, and a reengineering for growth have helped us deliver results. Our accomplishments in 2003 show that the AFIP has the global position and capabilities to produce outstanding results.

UNIQUE GLOBAL SCOPE. Today the AFIP is a leader in providing services and support to our military and civilian contributors worldwide. We have been transforming from an organization largely focused on the United States to a program that today is highly visible and recognized in the worldwide pathology and medical communities.

UNIQUE GLOBAL EXECUTION. Each year we take operational excellence to a higher level. Especially important are our Internet capabilities and applications that offer accelerated opportunities to build closer relationships with our partners and contributors worldwide. Our website provides detailed course information and the opportunity to register online. Approximately 14% of our course registrants came through the Internet during 2003. Our Web development team has greatly expanded and revised currently existing virtual pathology courses and is continuing to develop and refine additional ones as part of a Distance Learning initiative. This highly disciplined commitment to operating excellence will continue to fuel our international expansion.

UNIQUE GLOBAL VALUE. We have a solid foundation for delivering value to our contributors. Driving our success are the global relationships and loyalty we create with our contributors around the world. AFIP is a widely recognized name around the world. We understand that loyalty extends well beyond products that our contributors buy and use: a consultation, a fascicle, or a medical education course. Loyalty grows from the relationship that the contributors develop with the total AFIP experience. We also believe that our Internet capabilities are providing opportunities to advance our global strategy of building a base of loyal contributors.

CONSULTATION

The Principal Deputy Director provided leadership in focusing the consultation effort of the AFIP to accomplish the Director's vision. See individual pathology department reports for statistics on the Institute's achievements in this area.

Deployments

FG Mullick:

1. January 27-30, 2003, Washington, DC, TRICARE Conference.
2. February 19, 2003, Ft Detrick, Md, USGS Health Conference.
3. March 3-4, 2003, MIE/UMET Retention Subcommittee.
4. March 20, 2003, FDA Meeting Senior Science Council.
5. March 22-28, 2003, Washington, DC, USCAP.
6. March 22, 2003, Washington, DC, ADASP Meeting.
7. March 26, 2003, Washington, DC, Lecture, Georgetown University Medical School.
8. April 1-3, 2003, Reston, Va, USGS Conference on Natural Science.
9. April 3, 2003, Washington, DC, Hispanic Businesswoman of the Year.
10. April 16, 2003, Washington, DC, AFIP, MRMC Workshop.
11. April 24-25, 2003, San Juan, PR, US Advisory Board Meeting AGMUS
12. May 8-9, 2003, San Juan, PR, UMET/MIE Advisory Board Meeting.
13. May 20, 2003, Jackson State University and University of PR.
14. May 22-23, 2003, Washington, DC, Scientific Advisory Board Meeting.
15. May 28, 2003, MRMC-AFIP Workshop Follow-up.
16. June 12, 2003, San Juan, PR, Graduation Speaker, University of Turabo Medical School.
17. June 27, 2003, Washington, DC, US Medicine Institute for Health Forum.
18. July 17-18, San Juan, PR, UMET/MIE Project Meeting.
19. August 20-21, 2003, San Juan, PR, AGMUS Board of Directors Meeting.
20. August 29-30, 2003, San Juan, PR, MIE Project.
21. September 24, 2003, San Juan, PR, Lecture, UPR School of Medicine.
22. October 3-5, 2003, Bethesda, Md, Society of Medical Consultants to the AFIP.
23. October 16-17, 2003, American Registry of Pathology Board Meeting.
24. November 13-14, 2003, Scientific Advisory Board Meeting.
25. November 17-22, 2003, San Juan, PR, Board of Directors and Koppisch Lecture.
26. November 28-December 3, 2003, Medical Geology Course, Canberra, Australia.
27. December 17, 2003, San Juan, PR, AGMUS Board of Directors Meeting.

EDUCATION

The Principal Deputy Director provided leadership in focusing the education effort of the AFIP to accomplish the Director's vision. See individual pathology department reports for statistics on the Institute's achievements in this area.

Courses

FG Mullick:

1. Lecturer, Georgetown University Medical School
2. Codirector and Lecturer, US Geological Survey Conference on Natural Science
3. Graduation Speaker, University of Turabo, Puerto Rico
4. Lecturer, University of Puerto Rico School of Medicine
5. Codirector, Medical Geology Course, Canberra, Australia

Faculty Appointments

FG Mullick:

1. Clinical Professor of Pathology, USUHS, Bethesda, Md.
2. Adjunct Professor of Pathology, Georgetown University Medical School, Washington, DC.
3. Professor of Pathology, University of Puerto Rico Medical School, Rio Piedras, Puerto Rico.
4. Consultant in Pathology, Oncologic Hospital, Puerto Rico Cancer Society, University of Puerto Rico Medical Center, Rio Piedras, Puerto Rico.
5. Distinguished Professor, Universidad del Turabo, Caguas, Puerto Rico.

RESEARCH

The Principal Deputy Director provided leadership in focusing the research effort of the AFIP to

accomplish the Director's vision. See individual pathology department reports for statistics on the Institute's achievements in this area.

Publications

See the Cumulative Publications List for titles of 2003 publications by the Principal Deputy Director.

PROFESSIONAL ACTIVITIES

Editorial Boards

FG Mullick:

1. *Annals of Internal Medicine*
2. *Gastroenterology*
3. *Hepatology*
4. *Modern Pathology*
5. *Electronic Journal of Pathology and Histology*
6. *Annals of Diagnostic Pathology*
7. *Toxicologic Pathology*
8. *Patologia: Revista Latinoamericana*

Harry W. Nash Jr, SFC(P), USA
First Sergeant, AFIP
Date of Appointment — November 2002

OFFICE OF THE FIRST SERGEANT

STAFF

Tyrone L. Green, HMCS, USN, Senior Navy Enlisted Advisor
Harry W. Nash Jr, SFC(P), USA, Senior Army Enlisted Advisor
Michael W. Genet, SMSgt, USAF, Senior Air Force Enlisted Advisor

IMPACT

The Office of the First Sergeant is the focal point for all matters concerning enlisted service members and the AFIP mission. The First Sergeant provides guidance to the Director and Executive Committee members on the health, espirit de corps, discipline, mentoring, well being, career development, recognition, and assignment of enlisted personnel from all 3 branches of service. The First Sergeant acts as liaison between the Director, enlisted members, and key staff members, ensuring the Director's policies are known, understood, and carried out by all military personnel. The First Sergeant establishes rapport with other commanders, sergeants major, first sergeants, and community leaders, and represents the Institute as needed. Service-specific senior enlisted advisors work closely with the First Sergeant to assist enlisted personnel with service-specific issues, and to act as First Sergeant in his/her absence.

ACCOMPLISHMENTS

1. Provided superior enlisted tri-service support for the 2003 Ash Lecture.
2. Commended for outstanding enlisted support of the Dover Mortuary Mission.
3. Commended by WRAMC Garrison Sergeant Major for superior enlisted performance during the fall 2003 clean-up.
4. Ensured Institute BMAR Program is kept at a high state of readiness for possible deployment mission.

Stephen W. Bross, LTC, JA, USA
Legal Counsel
Date of Appointment — 3 July 1998

OFFICE OF LEGAL COUNSEL

STAFF

Stephen W. Bross, LTC, JA, USA, Legal Counsel
Penny L. Rodriguez, Legal Assistant (part-time)
Dwan Soto, Legal Assistant (part-time)

ACCOMPLISHMENTS

1. The Office of Legal Counsel provided services to the Institute as part of its business planning and transformation initiative:

- The major effort was to refine and add to a proposed revision for 10 USC 176, the Institute's authorizing legislation. The previous drafting in 2002 sought changes to expand the authority of the Institute in its relations with civilian medicine, to add legislative changes supporting various elements of the business plan, and to address such issues as providing a clear statement of the Institute's mission and purpose in the statute, enabling the Armed Forces Medical Examiner and others to assist civilian authorities with expert testimony, ensuring the coverage of Distinguished Scientists under the Federal Tort Claims Act, and providing the Director with express authority to accept gifts to the Institute. The 2003 revisions added new or revised text to expand the scope of AFIP's basic authority to interact with ARP, to provide additional authority for official involvement of AFIP employees in certain management positions in nonfederal entities, and to confirm the statute as an exception to competition in contracting requirements for contracts involving ARP. The initiative is making its way through the legislative machinery of the DoD and the Executive Branch, with occasional requests for more information or clarification.
- The Legal Counsel also provided a detailed assessment of funding and cost accounting requirements for various forms of research activity to the Business Office, and provided preliminary advice on the question of Medicare reimbursement of AFIP billings for services.
- The Legal Counsel continues to carefully monitor the costs of providing services under Economy Act arrangements with other federal agencies to ensure that AFIP complies with the Act and to support the long-term business practices necessity of heightened attention to care and precision in measuring and accounting for costs of doing business.

2. The Legal Counsel, in ongoing coordination and consultation with the Executive Committee and as part of the periodic review process, proposed various modifications to the Memorandum of Understanding between AFIP and ARP, covering such matters as HIPAA business associate arrangements, royalty sharing from licensing of ARP inventions, and a reexamination of the arrangements for publications. These matters are still under review.

3. The OAFME received substantial support on a variety of matters:

- Collection of DNA samples from civilians and contractors deploying with US forces in support of current operations.
- Applicability, if any, of 10 USC 1471 to casualties from combat operations and to the logistics of casualty processing.
- Jurisdictional issues surrounding OAFME support to NASA for the Columbia space shuttle disaster.

- The relationship between OAFME and the various service criminal investigative agencies for determinations of self-inflicted death.
- Various issues arising under DoD Instruction 5154.30 as this relatively new instruction is implemented, which highlight the need for additional guidance on such matters as the scope of the OAFME policy against service by its members as exclusive defense experts in courts martial, retention of tissues and organs at autopsy, establishment of a federal death certificate procedure for deaths in areas of exclusive jurisdiction in the United States, allocation of responsibility between OAFME and criminal investigative agencies for suicides, incorporation of provisions on DNA bloodstain cards being maintained for the US Coast Guard, and restatement of the quality assurance responsibilities of the OAFME.
- The discovery at WRAMC that its installation is an area of exclusive federal jurisdiction, and the exploration of the resulting change in relationship with the District of Columbia Medical Examiner for forensic investigation of deaths on the installation.
- Support to the Peace Corps for an autopsy of a volunteer who died overseas.
- Various situations involving requests for or appointment of OAFME personnel as experts for defendants in courts martial.

4. The office coordinated numerous requests to interview and depose Institute staff in connection with private litigation, or to obtain patient information relevant to litigation, and represented Institute and DoD interests at several such interviews and depositions, while also advising the staff members providing the testimony. The office also continued its involvement as liaison to the Army Litigation Division and the Department of Justice in pending tort claims and litigation:

- The Legal Counsel provided support to the Department of Justice in 2 ongoing medical malpractice tort claims that have progressed to federal litigation in which the United States has been substituted for a contract employee who was a party to the lawsuit, and which are in the discovery stage.
- AFIP has become an expert of choice in a variety of external military claims cases and also a few Department of Justice litigation matters, and the Legal Counsel is providing liaison support on these consultative activities.
- The Legal Counsel managed the provision of forensic medical information on the victims of the 1996 Khobar Towers bombing for use in a private lawsuit against nation-state actors.
- The Legal Counsel provided the ARP with a discussion of military rules limiting expert and opinion testimony, in connection with a survey by the Medical Board of California about expert testimony and the propriety of considering such testimony as the practice of medicine subject to standard of care peer review and quality assurance.
- In what appears to be an upsurge in activity, the Legal Counsel provided support, at times extensive, to numerous civilian attorneys seeking records and pathology specimens in private lawsuits, as part of the Legal Counsel role to ensure proper authority for such releases and to otherwise manage relations with counsel.

5. As the Institute's designated agency ethics official and ethics counselor, the Legal Counsel provided ethics training, prepared written and oral opinions and advisory letters for the Institute leadership and individual staff members, and also managed the financial disclosure reporting required of certain staff members under the Joint Ethics Regulation.

6. The Legal Counsel provided advice on several copyright, licensing, software and nondisclosure issues, including the DoD and Army standards for government publications. One invention that originated at AFIP and for which a patent is pending has already been licensed, and AFIP continued to receive royalties this year. The Legal Counsel oversaw technology transfer activities, including coordination on additional cooperative research and development agreement proposals and management of material transfer agreement documents. Inquiry also began into the feasibility of trademarks of various marks of interest to the Institute. The program is evolving and has the potential to provide important support to the Business Plan.

7. The Legal Counsel provided routine legal advice and guidance on the day-to-day work of the Institute in such typical areas as:

- Memoranda of agreement with other agencies for provision or exchange of technical and/or educational services, as well as agreements with nonfederal and foreign entities pertaining to research, education and training.
- Requests by outside parties for access to patient records and tissues.

- Civilian and military personnel administration, discipline, and investigations.
- Offers by outside sources to pay travel expenses of employees.
- Proposed revisions to Institute regulations.
- Military administrative law matters.
- Contract administration and procurement law matters.
- Fiscal law matters, including the structure of reimbursable operations.
- Issues specific to the operation of the National Museum of Health and Medicine.

8. Matters of particular note include:

- Substantial work on an MOA between the AFIP (Biophysical Toxicology) and the Baltimore VA Medical Center for depleted uranium testing support to a program at the VA for military personnel returning from Iraq and Afghanistan.
- Substantial work on an MOA between the AFIP (Forensic Toxicology) and the US Capitol Police for toxicology support, which for this iteration required submission to the DoD Executive Secretary for processing as military assistance to civil authority.
- Periodic work on contracting for services procured through a VA health system contracting office in north Texas under an Economy Act arrangement, to validate the details for the required determination and findings.
- Extensive support to the Institute's development of HIPAA procedures, including responses to requests for business associate agreements, as well as analysis of various issues arising under the HIPAA Privacy Rule, such as the interplay with FOIA, releases of information to Department of Justice personnel, releases of information to military trial and defense counsel and claims lawyers and investigators, and so on.
- Various interactions with patients or proxies seeking direct consultations for various reasons.
- Advice on various issues such as funding for change of command ceremonies, use of funds for plaques and mementos, and use of command vehicles.

9. The Legal Counsel in 2003 finished the design of a Microsoft Access database tool for recording work effort as something similar to a personal information manager, and implemented the system for daily operations. This is an important step on the way toward managing large volumes of information electronically using relational database technology. The application has substantially improved record keeping for the Legal Counsel and will be refined for greater functionality over time.

10. Notary services are provided to military personnel and their dependents for any legal matters requiring notarization.

Christopher C. Kelly
Director
Date of Appointment — 13 January 1991

OFFICE OF PUBLIC AFFAIRS

STAFF

Christopher C. Kelly, M Mgmt, Public Affairs Director
Michele R. Hammonds, BA, Public Affairs Specialist

IMPACT

The Office of Public Affairs provides a full range of external and internal communications programs in support of AFIP's essential military and civilian health care missions. During 2003 this was accomplished by:

- Publication of 4 comprehensive issues of the *AFIP Letter* (distributed to over 16,000 pathologists worldwide).
- A variety of proactive media relations programs.
- Arranging and conducting briefings for national and foreign dignitaries.
- Coordinating numerous special projects and events.
- Proactive community relations programs.

A number of significant media issues highlighted the Office of Public Affairs' involvement in AFIP's operational programs throughout 2003. Mr. Kelly provided expert commentary to major media outlets including *The New York Times*; *The Times* of London; *The Washington Post*; the Associated Press; *USA Today*, and National Public Radio. Topics included:

- Forensic identification of the Space Shuttle Columbia astronauts.
- Forensic techniques used to identify servicemembers killed in action in Operation Iraqi Freedom and high-profile forensic identifications of Iraqi nationals.
- Investigations into deaths of detainees in Afghanistan.
- Investigations into self-inflicted deaths among US military personnel deployed to Iraq.
- Pathologic findings in heat-related pneumonia deaths in deployed personnel.

Ms. Hammonds, public affairs specialist, provided comprehensive support for a variety of activities during the year, and particularly media queries including:

- Inquiries about the Armed Forces DNA Identification Laboratory.
- Findings in the 1918 Spanish flu.
- Background information on medical examiner activities.
- Findings by the Department of Veterinary Pathology.

Ms. Hammonds also helped design and staff AFIP's exhibits at military and civilian meetings in 2003, including:

- TRICARE
- Association of the US Army (AUSA) Medical Symposium
- Force Health Protection
- Association of Military Surgeons of the US (AMSUS)
- AUSA Annual Fall Meeting
- US/Canadian Academy of Pathology Annual Meeting

In February, at the American Academy of Forensic Sciences Annual Meeting in Chicago, Mr. Kelly presented "Media relations and the identification of the September 11 Pentagon terrorist

attack victims: the perspective of the Office of the Armed Forces Medical Examiner." In August at the Force Health Protection Annual Meeting in Albuquerque, he presented "AFIP's role post 9-11." During the year the office also coordinated the Institute's Change of Directors and Ash Lecture events, and hosted and briefed over 2 dozen visitors and groups to the Institute. Ms. Hammonds coordinated numerous other special events, tours, and community relations programs, organized visit requests, conducted quarterly newcomers' briefings, and developed feature stories on AFIP programs and personnel for publication.

EDUCATION

Courses

Office staff participated in 1 course in 2003.

Presentations

1. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Media relations and the identification of the September 11 Pentagon terrorist attack victims: the perspective of the Office of the Armed Forces Medical Examiner," CC Kelly.
2. April 2003: Morgantown, WV, Disaster Mortuary Operational Response Team (DMORT) Region III Training, "Media issues in mass fatality events," CC Kelly.
3. May 2003: Bethesda, Md, AFIP Forensic Anthropology Course, "Media issues in mass fatality events," CC Kelly.
4. June 2003: Washington, DC, National Museum of Health and Medicine, "Experiences as a Gulf War veteran," MR Hammonds.
5. August 2003: Albuquerque, NM, Force Health Protection Conference, "AFIP's role post 9-11," CC Kelly.

RESEARCH

See the Cumulative Publications List for titles of 2003 publications by office staff.

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2003, TRICARE Annual Meeting, Washington, DC, MR Hammonds (AFIP).
2. February 2003, American Academy of Forensic Sciences Annual Meeting, Chicago, Ill, CC Kelly (ARP).
3. February 2003, Worldwide Army Public Affairs Symposium, Arlington, Va, MR Hammonds (AFIP).
4. March 2003, US/Canadian Academy of Pathology Annual Meeting, Washington, DC, MR Hammonds (AFIP).
5. April 2003, Disaster Mortuary Operational Response Team (DMORT) Region III Training Conference, Morgantown, WV, CC Kelly (DMORT).
6. June 2003, Association of the United States Army Medical Symposium, San Antonio, Tex, MR Hammonds (AFIP).
7. August 2003, Force Health Protection Conference, Albuquerque, NM, MR Hammonds, CC Kelly (AFIP).
8. October 2003, Association of the United States Army Conference, Washington, DC, MR Hammonds (AFIP).
9. November 2003, Association of Military Surgeons of the United States Annual Meeting, San Antonio, Tex, MR Hammonds (AFIP).

Donna M. Roncarti, Col, USAF, BSC
Director
Date of Appointment — 1 September 2002

CENTER FOR CLINICAL LABORATORY MEDICINE

STAFF

Donna M. Roncarti, Col, USAF, BSC, Director
William H. Boisvert, COL, MSC, USA, Associate Director
Brenda Bartley, CDR, MSC, USN, Associate Director
Denise T. Green, Lt Col, USAF, BSC, Dep. Director, Office of Lab Management
Karen M. House, Maj, USAF, BSC, Lab Management Fellowship
Michael Genet, SMSgt, USAF, Air Force CLIP Program Manager
Gerry S. Rapisura, HMC, USN, LCPO, Navy CLIP Program Manager
Yvonne Easley-Haley, TSgt, USAF, Clinical Lab Management Indicator Program
Jacqueline M. Bryant, SSG, USA, Army CLIP Program Manager

IMPACT

The CCLM directs the operation of the DoD Clinical Laboratory Improvement Program (CLIP), as defined by DoD Instruction 6440.2 and Public Law 100-578 (Clinical Laboratory Improvement Act). We administer public law and federal policy for military medical laboratory operations in peace, contingency, and wartime, ensuring no restrictions or cessation of laboratory services that would impede DoD mission requirements.

CCLM performs regulatory oversight, determining policy that provides guidance for all military medical laboratory operations in the DoD. We direct activities and funding of an operating budget of over $3.5 million annually for office administration and component central contracts for medical laboratory proficiency testing, accreditation and inspections. We resolve situations where public or state law is in conflict with DoD policy, respond to congressional, military, or public inquiries about laboratory services, and review laboratory operations data including proficiency testing results, accreditation, and regulatory inspection results. We also coordinate laboratory technical assistance and intervention strategies among DoD laboratories.

CCLM provides consultative services and impact analysis on clinical laboratory issues to the Director of AFIP, to each service's Surgeon General, and to the Office of Assistant Secretary of Defense for Health Affairs. We provide professional and management guidance to DoD laboratory officers and enlisted members and cochair the DoD Laboratory Joint Working Group (LJWG). We are also the gatekeeper for Tri-Service and CDC initiatives to develop a biological warfare detection and response system such as the National Laboratory Response Network.

CONTRIBUTIONS TO MILITARY READINESS

- DoD laboratory registration statistics for 2003 include:
  - Army: 699 certificates with 1,323 sites
  - Navy: 420 certificates with 814 sites
  - Air Force: 392 certificates with 834 sites
- Enhancement/sustainment of CDC and Tri-Service Laboratory Response Network (LRN) Partnership Initiative. The purpose of the LRN is to rapidly detect and identify biological

threat agents and to alert public health and law enforcement agencies of a suspected release to minimize exposure to that agent. CCLM functions as the coordinating office for DoD participation in the LRN, as directed by the 3 Service SGs. As the coordinator of DoD laboratory network participation, CCLM must communicate, implement, and ensure compliance with all changes in federal law regarding handling of select agents, specimen collection and testing protocols, and maintenance of proficiency by DoD network labs. To assist with the communication/coordination responsibilities, CCLM made the update of LRN progress, activities, and issues a standard agenda item at the biannual LJWG meetings. The DoD LRN gatekeeper briefed changes to national response plans, federal laws, and guidelines. CCLM chaired the meeting of the AF Biodefense Working Group in December 2003, which reviewed the results of the proficiency testing program for AF Homeland Defense Laboratory Response Teams and Biological Augmentation Teams, resolved sustainment/funding issues for the RAPIDS detection platform, and started initial planning for the fielding of JBAIDS Block I. At the close of 2003 DoD had fielded 1-Level D, 2-Level C, 13-Level B and 142-Level A LRN laboratories at CONUS and OCONUS locations. The LRN enacted CDC PCR protocols associated with detection of SARS in response to the April 2003 SARS outbreak. SARS is not a BT agent, but the LRN was capable of responding immediately to and providing clinical sample testing during this epidemic outbreak. All 13 DoD LRN Confirmatory Labs have the capability of detecting SARS using PCR technology.

- This office has saved over $1M annually in registration and inspection fees. CCLM has avoided in excess of $12M in fees to the Center for Medicare and Medicaid Services (formerly the Health Care Financing Administration) since inception of the program in 1993.
- An MOA between the Department of Health and Human Services and the Department of Defense, ASD(HA), was signed in January 2003 recognizing the ASD(HA) as the authority pursuant to Title 10, US Code, Chapter 10 for oversight and responsibilities associated with quality of health cares services provided by the clinical laboratory.
- AFIP PAM 40-24 was updated, accepted by Clinical Lab Improvement Advisory Committee (CLIAC), and signed in January 2003 by the Director, AFIP. The updating of this PAM was pivotal to HHS initiating and signing the MOA. The update included changes associated with 42 CFR 493, CLIA 88.
- Proficiency Testing (PT): All registered laboratories performing moderate- and/or high-complexity procedures were enrolled in centralized service-specific contracts during 2003. CCLM reviewed over 9,107 PT surveys for 2003. There were approximately 150 testing events out of 27,000 where labs performed unsatisfactorily, and CCLM performed required review of corrective actions taken. There were no instances of PT failure in 2003 that required suspension, limitation, or revocation of CLIP certification. Overall, proficiency test performance for all survey events was 93%, well above the 80% standard.
- Accreditation: The College of American Pathologists (CAP), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), or the Commission on Office Laboratory Accreditation (COLA) accredits DoD laboratory facilities. Each facility is inspected every 2 years and results of inspections are forwarded to CCLM for review.
- Laboratory Joint Working Group (LJWG): The center cochairs and facilitates this committee consisting of service laboratory medicine and pathology consultants, health affairs representatives, and an appointed laboratory representative from each TRICARE region. The LJWG facilitated DoD-wide referral laboratory contracts to reduce reference laboratory utilization costs and explored initiatives to consolidate DoD testing sites to reduce reagent, supply and other direct operational costs where feasible. Consolidation of flow cytometry testing to DoD regional medical centers was adopted in August 2003. Center personnel are members of these subcommittees: DoD benchmarking for laboratories, CHCS interconnectivity, and reference lab utilization analysis/testing service consolidation.
- Laboratory Composite Health Care System (CHCS) Interconnectivity: Participated in an ongoing working group to complete the testing phase and begin deployment of the software developed to allow laboratory CHCS interconnectivity between DoD facilities, DoD and VA facilities, and DoD and civilian reference laboratories. The project was funded at $2.5M by OASD(HA). Formal testing of the interconnectivity software product was successfully completed in 2003. Deployment of software modules and operator training was initiated in Region 6 and will be extended to all DoD lab facilities.
- DoD Laboratory Standard File Committee: The center chairs the committee that

maintains and updates the Laboratory Standard File in CHCS. The standard file contains the approved test name nomenclature and logical observation identifier names and codes (LOINC), which allows host-to-host communication for DoD laboratory interconnectivity. The committee provides periodic standard file updates to the CHCS contractor for implementation.

- The LJWG granted approval for adoption of the St. Anthony's/Ingenix Resource Based Relative Value Scale to derive cost-based relative value units for all laboratory-associated CPT codes in CHCS. This action supports the development of a single table that all source systems (CHCS, ADS, EAS IV) will load to effectively standardize CPT codes and weights used by all. The method for assigning values will be consistent, accurate, and universal.
- Expediently notified all DoD laboratories and service logistics centers of reagent manufacturing and equipment problems during the past year.
- Provided leadership for the CHCS II COTS acquisition working group as a voting member of the group and representative to the FIWG. The RFP for the acquisition of a commercial off-the-shelf (COTS), fully integrated, anatomic pathology/clinical laboratory information system to replace the legacy CHCS lab module on the CHCS II platform was released in late 2003. Additionally, the group developed tools to be used to assess the products of competing offerors, and solidified the membership of the team that will participate in the source selection process. The team will assess the functional capabilities of the systems demonstrated by potential contractors, leading to contract award.
- Crafted and implemented the force development plan for the Air Force laboratory career field to connect all training and education opportunities to assignment experiences, to ensure personnel decision processes invest the right education, training, and experiences in the right officers at the right times.

EDUCATION

The department presented 15 workshops or seminars encompassing 300 man-hours of departmental time, with approximately 1,000 attendees.

PRESENTATIONS

1. January 2003: Washington, DC, LJWG, "Global laboratory information transfer, CHCS Clinical Laboratory/AP COTS acquisition," P Barnicott, DT Green.
2. January 2003: Washington, DC, LJWG, "CLIP office update," WH Boisvert.
3. January 2003: Washington, DC, LJWG, "LRN update," WH Boisvert.
4. February 2003: Sheppard AFB, Tex, Biomedical Officer Management Orientation Course, "The ins and outs of workload recording," "Clinical laboratory management indicators," "LJWG," "Laboratory standard cost methodology," "AF manpower model," "Clinical Laboratory Improvement Program," "PT basics," "LRN and bio-defense," DT Green.
5. March 2003: Reno, Nev, Society of Armed Forces Medical Laboratory Scientists Meeting, "Army medical biosafety level 3 laboratory projects for biological preparedness," WH Boisvert, C Whelen, W Nauscheutz.
6. March 2003: Reno, Nev, Society of Armed Forces Medical Laboratory Scientists Meeting, "Laboratory training for non-laboratorians," D Lahl, SFC Rodriquez.
7. August 2003: Washington, DC, LJWG, "CHCS Clinical Laboratory/AP COTS acquisition," DT Green.
8. August 2003: Washington, DC, LJWG, "Lab Referral Utilization Subcommittee update," DT Green.
9. August 2003: Washington, DC, LJWG, "LRN/Homeland Defense," WH Boisvert.
10. August 2003: Washington, DC, LJWG "Flow cytometry consolidation," DM Roncarti.
11. August 2003: Sheppard AFB, Tex, "The ins and outs of workload recording," "Clinical laboratory management indicators," "Laboratory Joint Working Group," "Laboratory standard cost methodology," "AF manpower model," "Clinical Laboratory Improvement Program," "PT basics," "LRN and bio-defense," KM House.

PUBLICATIONS

See the Cumulative Publications List for titles of 2003 publications by center staff.

Geoffrey W. Rake, MD, MSA
Director
Date of Appointment — 6 October 2003
(contractor, 2 September - 3 October 2003)

DEPARTMENT OF DEFENSE PATIENT SAFETY CENTER

STAFF

Professional

(D) Guy Molinari, MD, Director
(A) Geoffrey W. Rake, MD, MSA, Director
Ronald Nosek, CDR(P), USN, Pharmacist
(A) Rajasri Roy, PhD, Epidemiologist (contractor)
Bridget Olson, Human Factors Engineer (contractor)
Mary Ann Davis, RN, Safety Officer (contractor)
Philip Pierce, Information Systems (contractor)
(D) Judy Brinckerhoff, RN, Safety Officer (contractor)
(D) Rene Norris, RN, Team Training Educator (contractor)
(D) Linda Douglas, RN, Team Training Educator (contractor)

Administrative

(A) Peter Stifel, Administrator (contractor)
Pamela Oetgen, Newsletter Editor (contractor)
(A) Nanette Barry, Secretary (contractor)
(D) Donald Fournier, Operations Officer (contractor)
(D) Betty Streams, Administrative Assistant (DoA)

IMPACT

The Department of Defense Patient Safety Center (DoD PSC) made remarkable progress in 2003, meeting its mission as defined in statute and DoD Instruction. The center, established in 2000, maintains the DoD PSC Registry for patient safety data collected by the services from 144 military clinics and hospitals worldwide. Monthly summary reporting began in November 2002, making 2003 the first year for data reporting. In addition, during 2003 medication error reporting was split off and accomplished through the MEDMARX system, under contract with US Pharmacopoeia. In October 2003, MEDMARX became the sole instrument for reporting and analyzing military treatment facility (MTF) medication errors.

In 2003, the PSC produced its first quarterly reports, first DoD Patient Safety Hot Topics, and first DoD Patient Safety Alert. In addition, the PSC provided targeted data analysis for services and intermediate commands, focused support for individual MTFs, support for Patient Safety Officer training, and a number of presentations at conferences and other settings. In short, in 2003 the PSC moved from merely collecting data to producing information to support safer care environments for military patients and staff.

CONSULTATION

The DoD PSC Registry collects and reports cases on a fiscal-year basis. The cases are collected in 3 separate streams: monthly summary reports of nonmedication and some medication events (including near misses and actual events), MEDMARX medication events (including near misses and actual events), and root cause analyses.

Cases	*Total*
Monthly summary reported events	30,284
MEDMARX (medication events)	7,979
Inpatient	1,036
Outpatient	6,943
Root cause analyses	40

Deployments

1. August 2003, Wright Patterson AFB, Ohio, Failure Mode Effects Analysis Site Visit, B Olson.
2. September 2003, Orlando, Fla, DoD Patient Safety Officer Orientation Course, G Rake, R Nosek, B Olson, R Roy, N Barry.
3. September 2003, Orlando, Fla, Advanced TapRoot Training, R Roy.
4. November 2003, Navy Medical Center, Portsmouth, Va, Staff Assistance Site Visits, R Nosek.
5. December 2003, WRAMC, Washington, DC, National Naval Medical Center, Bethesda, Md, R Nosek.

EDUCATION

Courses

Department staff participated in 5 courses in 2003.

Presentations

1. March 2003: Washington, DC, National Patient Safety Foundation Patient Safety Congress, "Standardizing medication error reporting in the Department of Defense," R Nosek.
2. September 2003: Orlando, Fla, DoD Patient Safety Training Conference, "Patient Safety Center overview," G Rake.
3. September 2003: Orlando, Fla, DoD Patient Safety Training Conference, "Medication event reporting – MEDMARX," R Nosek.
4. September 2003: Orlando, Fla, DoD Patient Safety Training Conference, "Failure mode effects analysis," B Olson.
5. September 2003: Rockville, Md, US Navy Organizational Process Improvement Annual Meeting, "Standardizing medication error reporting in the Department of Defense," R Nosek.
6. October 2003: Nashville, Tenn, Combined Forces Pharmacy Seminar Annual Meeting, "Failure mode effects analysis," B Olson.
7. October 2003: Nashville, Tenn, Combined Forces Pharmacy Seminar Annual Meeting, "The Department of Defense Patient Safety Center: the first year," R Nosek.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by center staff.

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2003, TRICARE Conference, Washington, DC, R Nosek (DoD PSC).
2. March 2003, National Patient Safety Center Congress, Washington, DC, M Davis, R Nosek (DoD PSC).
3. April 2003, DoD Patient Safety Training Seminar, San Antonio, Tex, R Nosek (USUHS).
4. August 2003, Quality Colloquium at Harvard, Cambridge, Mass, G Rake (OASD(HA)), R Nosek (DoD PSC).
5. August 2003, MedTeams Training, Washington, DC, B Olson, M Davis (DoD PSC).
6. September 2003, Human Factors and Ergonomics Society Annual Conference, Denver, Colo, B Olson (DoD PSC).
7. October 2003, American Medical and Informatics Association Symposium, Washington, DC, B Olson (DoD PSC).
8. October 2003, Institute for Safe Medication Practice Site Visit, Willow Grove, Penn, G Rake, R Nosek (DoD PSC).
9. November 2003, American Society for Healthcare Risk Management 23rd Annual Conference, Nashville, Tenn, M Davis (DoD PSC).

10. November 2003, Agency Healthcare Research and Quality National Summit on Patient Safety Research, Washington, DC, G Rake, B Olson.
11. November 2003, Air Force Medical Logistics Office Site Visit, Ft Detrick, Md, G Rake, R Nosek (DoD PSC).
12. December 2003, Veterans Administration National Center for Patient Safety Site Visit, Ann Arbor, Mich, G Rake (DoD PSC).
13. December 2003, Walter Reed Army Medical Center.

Frank T. Flannery, MD, JD
Chair
Date of Appointment — 9 October 1990

DEPARTMENT OF LEGAL MEDICINE

STAFF

Medical

Frank T. Flannery, MD, JD
Richard L. Granville, MD, JD
William J. Oetgen, MD, MBA
(A) Alfred Buck, MD
Susan Freeburn, Nurse Consultant Risk Manager

Legal

Alan Cash, RN, JD
Jill E. Thach, JD
Phyllis K. Oetgen, MSW, JD

Administrative

Kevin Slaton, TSgt, USAF
Virginia R. Hunt, Legal Assistant
Herman Furlow, Administrative Assistant
Daniel Wheatley, MS, Statistics Specialist
(D) Anne Schroeder, Administrative Assistant
(A) Marian Rodriquez, Administrative Assistant
(A) Wendy A. Downing, Administrative Assistant
(A) Taneka Childs, Credentials Manager
(A) Mary Ann Milett, Credentials Manager
(A) Amy Wynkoop, Credentials Manager

IMPACT

The Department of Legal Medicine conducts consultation, education, and research on medicolegal, medical quality assurance, and risk management matters confronting the military, federal agencies, and civilian sectors. Our primary responsibility is to meet the DoD's informational needs regarding medical negligence litigation and consequent remedial measures.

The department has had a major impact on quality assurance and risk management issues for the DoD in diverse areas, as outlined below. Two major activities of the department in 2003 were the further development of the Centralized Credentials Quality Assurance System (CCQAS) and the establishment of a sharing agreement with the Department of Homeland Security (DHS) to perform credentials management for the National Disaster Medical System (NDMS) within DHS.

CCQAS has been developed over the past 8 years to facilitate credentials management in the DoD, to speed deployment and movement of healthcare providers in support of military operations. Our department plays an integral role in this process as the DoD component analyzing medical malpractice cases, adverse privileging actions, and disability cases. Analyzing and reporting this information is highly military relevant, as it improves the quality of medical care for our soldiers in peacetime and during major deployments.

The second major area of impact for the department in 2003 was establishing a sharing agreement with the DHS for credentials management. The NDMS is a section within the DHS, Federal Emergency Management Agency (FEMA), and has the responsibility for managing and

coordinating federal medical response to major emergencies and federally declared disasters, including natural and technological disasters, major transportation accidents, acts of terrorism, and the use of weapons of mass destruction. Through this sharing agreement, our department will play a vital role in ensuring that the 10,000 healthcare providers who may respond to these major events will be properly credentialed for their important roles, an activity vital to the defense of the nation.

QUALITY MANAGEMENT/RISK MANAGEMENT CONSULTATION

The department's highest priority is military-relevant DoD projects such as the following:

- We participate in a number of senior-level DoD committees related to quality improvement and risk management. A primary focus has been an active involvement with the DoD Risk Management Committee, chaired by the Office of the Assistant Secretary of Defense for Health Affairs (OASD (HA)). Medical malpractice data from the Department of the Treasury are periodically reported to that committee and the 3 services, to enable DoD to monitor the number of paid medical malpractice cases. The department also participates in the TRICARE Clinical Quality Forum, and in 2003 wrote the chapter on DoD medical malpractice for the DoD Annual Quality Management Report to Congress. In addition, we use our expertise in ongoing consultation to assist in the development of the CCQAS. The structure and content of the Risk Management, Disability and Adverse Actions modules of this large database, as well as the ad hoc and standard reporting features, were largely influenced by our staff in 2003.
- The department has continued an active involvement with the Keystone Peer Review program (KePRO). Paid medical malpractice cases, which meet the standard of care at the offices of the respective Surgeons General, are reviewed by the KePRO as an external entity in order to insure uniformity and accuracy. Our department plays an important role in insuring the completeness of these reviews, so that they address the issues of standard of care and causation in a timely manner. We analyze the KePRO data and include it in the DoD Annual Quality Improvement Report to Congress.
- The department has continued its important interaction with the Department of the Treasury. On a monthly basis, we receive and analyze financial reports from Treasury to assist OASD (HA) in monitoring medical malpractice trends. This project is highly important because many of these figures are used for comparison with the larger database in the private sector. Treasury data also facilitate notification to the 3 Offices of the Surgeons General of newly paid medical malpractice cases so that they can meet their statutory requirement of reporting to the National Practitioner Data Bank in a timely fashion.
- The department analyzes the Risk Management, Disability, and Adverse Action modules of the CCQAS program. In 2003, members of the department assisted the Resources Information Technology Program Office in developing these modules by creating standard reports.
- The department has continued its valuable DoD credentials work through a sharing agreement with the Navy Recruiting Command by verifying the credentials and claims histories of health care providers who have applied to be accessioned as active duty personnel for the Department of the Navy. We also continued our work, through a sharing agreement with the Bureau of Prisons, in the evaluation and prime source verification of the credentials of newly hired health care providers for the Department of Justice.
- In 2003, we completed case reviews for other federal agencies through active sharing agreements with the Department of Health and Human Services Inspector General's Office, the Bureau of Prisons General Counsel, and the Nuclear Regulatory Commission. These medical-legal reviews are important in determining the standard of care, causation, and injury elements of these tort cases.
- Members of our staff participate on the Public Health Service Quality Review Panel reviewing malpractice claims involving the Indian Health Service and other agencies. Panel members review malpractice claims information and determine whether the named health care providers have met the standard of care, and if not, they then decide whether this caused the alleged injury.
- Since 1990, the department has maintained a repository of over 16,000 closed DoD medical malpractice cases. In 2003, we accessioned and cataloged 399 newly closed DoD medical malpractice cases and, in conjunction with the AFIP Department of Repository and Research Services, began working with an outside contractor to image medical

malpractice claim files in the repository. This will preserve claim files in an electronic format and decrease storage space.

Cases	*Completed*
Military	332
Army (138)	
Navy (126)	
Air Force (68)	
Federal	192
DOJ (BOP) (185)	
DHHS (IG) (1)	
DHS (6)	
Interdepartmental	5
Total	529

EDUCATION

- The department produces an annual risk management journal titled *Legal Medicine*. By completing a quiz, physicians earn 5 category 1 CME credits, provided free of charge to military and full-time federal physicians. Approximately 18,000 CME credits were awarded in 2003, more than half to military and federal civilian physicians.
- We have expanded our nursing journal titled *Nursing Risk Management*. In 2003, we produced a hard copy edition along with an Internet version. The four issues together provide 14.5 contact hours for registered nurses, provided free of charge to military and full-time federal civilian nurses. In 2003, 222 military and federal civilian nurses participated in this program. The department has begun an aggressive solicitation campaign to increase the number of subscribers to this important journal.
- We provided medical-legal training to a number of medical students at USUHS and other institutions. The department also participated in the ACCME reaccreditation process for CME courses provided by AFIP.

Presentations

1. February 2003: Washington, DC, TRICARE Clinical Quality Forum, "DoD malpractice data for the DoD Annual Report to Congress," R Granville.
2. April 2003: Washington, DC, WRAMC, "Medical negligence trends in the Military Health Care System," F Flannery.
3. October 2003: Washington, DC, AFIP, Presentation, Baylor Health Law Students, "Department of Legal Medicine mission and medical malpractice trends within DoD," A Cash.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

PROFESSIONAL ACTIVITIES

Official Trips

1. September 2003, Redondo Beach, Calif, NCQA Credentials Seminar, S Freeburn (ARP).
2. November 2003, San Antonio, Tex, AMSUS Convention, A Cash (GS).

Editorial Boards

1. *Military Medicine*, RL Granville
2. *Federal Practitioner*, FT Flannery

Henry G. Fein, COL, MC, USA
Chief
Date of Appointment — 2 July 2001

OFFICE OF FACILITIES PLANNING AND TRANSITION

STAFF

Henry G. Fein, COL, MC, USA, Chief
Parks M. Wilson, MSA, Transition Officer

Health Facility Planning Office

Jerry LaChapelle, BS, Project Manager/Integrator
John Filano, BS, Assistant Project Manager

IMPACT

The Office of Facilities Planning and Transition manages interrelated efforts to provide safe and modern working environments for all AFIP departments. We manage the design, construction, and occupancy of renovated areas within Building 54, and serve as the advocate for AFIP in its efforts to acquire a modern replacement facility, which would be constructed by a private developer under Enhanced Use Lease Authority.

ACTIVITIES

1. Coordinated all aspects of the financial, architectural, and environmental planning for a modern, flexible new facility for AFIP at the Walter Reed Main Post.
2. Coordinated among AFIP, Office of the Surgeon General (Health Facility Planning Agency), WRAMC, Army Corps of Engineers, and multiple consultants to prepare economic analyses, Master Plan modifications, environmental assessment, funding strategies, scope and location plans for the proposed new facility. Fully integrated these plans with the evolving Transformation Plan for AFIP.
3. Coordinated the renovation of the 4th and 5th floors of Building 54 (animal laboratories and Infectious Diseases Pathology), including extensive BSL-2 and BSL-3 lab facilities. We supervised the extensive phased reconstruction of the mechanical infrastructure in an otherwise fully occupied facility.
4. Managed the acquisition and modification of a leased off-site industrial facility in Rockville, Maryland to free up space within Building 54 for missions displaced by the renewal construction.
5. Planned and executed modification and outfitting of the newly available swing space in Building 54, and smoothly coordinated the extensive moving of personnel and equipment within AFIP's existing facilities to ensure that the renewal construction continued on schedule.
6. Served as User Representative for AFIP in the accelerated design/build process for the replacement Port Mortuary Facility at Dover Air Force Base, Delaware. Despite very ambitious milestones, this project remained within tight timeline and budget constraints. We helped to ensure that the facility is modern, safe, flexible, and fully functional for AFIP pathologists.
7. Coordinated and served on the AFIP Facilities and Equipment Planning Committee, which oversaw all construction, modification, and large equipment purchases and installation.

PROFESSIONAL ACTIVITIES

External Support

HG Fein:

1. Along with Mr. LaChapelle, assisted the Health Facility Planning Agency (HFPA) in the planning and acquisition of modular BSL-3 laboratories for national and overseas deployment. COL Fein consulted with HFPA in planning the scope of a replacement laboratory for USAMRIID at Ft Detrick, Maryland.
2. Was a member of the Human Use Review Committee (Institutional Review Board) at WRAIR, ensuring that all research involving human volunteer subjects is conducted in a safe and ethical manner that satisfies all regulatory requirements. During 2003, COL Fein was appointed the Interim Chair of this committee.
3. Served as a member of the clinical staff of the Endocrinology/Metabolism/Diabetes Service of the Department of Medicine at WRAMC.
4. Was a member of the Public Health Committee of the American Thyroid Association.

Faculty Appointments

1. Associate Professor of Medicine, USUHS, HG Fein.
2. Assistant Clinical Professor of Medicine, Georgetown University Medical School, HG Fein.

Continuing Education

HG Fein:

1. Health Facility Planning Agency Short Course, May 2003.
2. American Thyroid Association Annual Meeting, September 2003.
3. Protection of Human Research Subjects, September 2003.
4. Public Responsibility in Medicine and Research Annual IRB Conference, December 2003.
5. Applied Research Ethics National Association Annual Meeting, December 2003.

J LaChapelle:

1. North American Steel Construction Conference, April 2003.
2. Health Facility Planning Agency Conference, May 2003.
3. Health Facility Planning Agency Project Integrator Training, November 2003.

J Filano:

Health Facility Planning Agency Project Integrator Training, November 2003.

Presentations

HG Fein:

1. Monthly Facility Planning Progress briefings to the AFIP Executive Committee
2. Monthly updates to the AFIP community (AFIP Transition Senate)
3. Briefs (5) to the Surgeon General on Transformation Plan, Enhanced Use Lease Plan, and Board of Governors Meetings.
4. Briefs (3) to Office of Assistant Secretary of Defense (Health Affairs) on same topics.
5. WRAMC Endocrinology Grand Rounds (1).

DIRECTORATE OF ADVANCED PATHOLOGY

Sumitra Parekh
COL, MC, USA
Director, Advanced Pathology

GROUP 1—
- Genitourinary Pathology (Nephropathology)
- Gynecologic & Breast Pathology
- Neuropathology (Ophthalmic Pathology)

GROUP 2—
- Dermatopathology
- Orthopedic Pathology
- Soft Tissue Pathology
- Oral & Maxillofacial Pathology
- Endocrine & Otorhinolaryngic/Head-Neck Pathology

GROUP 3—
- Hematopathology
- Veterinary Pathology
- Infectious & Parasitic Diseases Pathology
- Environmental & Toxicologic Pathology

GROUP 4—
- Hepatic & Gastrointestinal Pathology
- Cardiovascular Pathology
- Pulmonary & Mediastinal Pathology

Joseph P. Jensen, BS, MPA
Administrator
Date of Appointment — 15 July 1993

DIRECTORATE OF ADVANCED PATHOLOGY—OPERATIONS

ORGANIZATION

The directorate is organized into 4 sections:

1. Director, DAP
2. Office of the Administrator
3. Financial and Logistics Support
4. Group Administrators

STAFF

Candy Moroz, Financial and Logistics Support Supervisor
Wendy Baker, Group Administrator (Reproduction and Neuropath group made up of GU, GYN, Neuro)
(D) Michele Block, Group Administrator (transferred to Repository and Research Services)
Sheila Norrington, Group Administrator (Abdominal and Thoracic group made up of Hepatic and GI, Cardio, Pulmonary)
Harold Lindmark, Group Administrator (Musculoskeletal group made up of Derm, Ortho, Oral, Soft Tissue, Endo)
Mark Sacks, Group Administrator/Credentialing (Specialized Services group made up of Hemato, Vet, Infect/Para, Enviro/Tox)

IMPACT

The directorate provides effective, efficient, and innovative operations support to the Director, and all departments within the DAP. Our role is to plan and execute the support elements of financial management, logistics support, space usage, personnel plans, recruitment, training, promotion, and retirement.

ACTIVITIES

- The DAP administrative staff refined and improved upon their of departments of the Directorate, including primary secretarial support to departments, either directly through the group administrators or indirectly by contract with individuals, as required. In 2003, the financial reports generated by DAP/OPS were the only "real time" financial management tools provided to the department chairs due to a computer-linkage problem by AFIP/Resources Management and the Department of the Army Finance Center in San Antonio, Tex. The group administrators also guided department chairs through administrative actions to improve secretarial staff through training and enforced personnel actions, as required.
- The Pathology Information Management System (PIMS) continues to evolve into a much more secure, usable system. The first significant supplement to the system was the Laboratory Tracking Module.
- The DAP Operations Division has been integral in developing and fielding the new AFIP Business Office, which will allow complete tracking of expenditures and charging mechanisms.

ADVANCED PATHOLOGY

GROUP 1

Genitourinary Pathology (Nephropathology)

Gynecologic & Breast Pathology

Neuropathology (Ophthalmic Pathology)

Fathollah Kash Mostofi, MD (Deceased)
Chair
Date of Appointment — 1 July 1948 - 6 April 2003

DEPARTMENT OF GENITOURINARY PATHOLOGY AND NEPHROPATHOLOGY

Robert Becker, Col, USAF, MC
Acting Chair
Date of Appointment – February 2003

Isabell A. Sesterhenn, MD
Associate Chair
Date of Appointment – August 2001

In 2003, the Department of Genitourinary Pathology and the Institute suffered the loss of Dr. Fathollah Kash Mostofi, who brought the department national and international renown. Over the many years we all worked together, he was the staff's inspiration and guiding light.

STAFF—Genitourinary Pathology

Medical

FK Mostofi, MD, Chair (Deceased)
Charles J. Davis, Jr., MD, Deputy Chair, ARP
Isabell A. Sesterhenn, MD, Associate Chair
Raj Shekar, COL, MC, USA, Staff Pathologist
(D) Gary L. Cohen, Maj, USAF, MC, Staff Pathologist
(A) Robert L. Becker, Col, USAF, MC
(A) William Winecoff, COL, MC, USA
Sharda G. Sabnis, MD, Nephropathology
Thomas R. Himes, CAPT, MC, USN, Staff Pathologist (part time)
Bungo Furusato, MD, Fellow
(D) Xinzhu Pang, MD, Fellow
Suman Chauhan, MD, Callender-Binford Fellow, January 2003 — June 2003
Yijun Guo, MD, PhD, Callender-Binford Fellow, July 2003 — December 2003

Sharda G. Sabnis, MD
Nephropathology

Technical

Frank A. Avallone, Research Biologist
Denise Young, Histopathology Technologist, ARP
Rex C. Hartzoge, Histopathology Technologist

Administrative

Renee Upshur-Tyree, Administrator
Annette D. Allen, Secretary, VA
(D) Harriet M. Murphy, Administrative Clerk, ARP
Vera Pettus, Medical Secretary
Paulette Crampton, Secretary

IMPACT

The department's GU laboratory contributes to the Institute by providing immunohistochemistry, immunofluorescence and in situ hybridization for our own and 21 other departments of the AFIP, and for the Urology and Pathology Services of WRAMC, Malcolm Grow, and the Naval Medical Center Camp Pendleton.

The department's military relevance is illustrated in our role as the pathology center for the Center for Prostate Disease Research, a tri-service prostate specimen repository mandated by Congress as authorized in Public Law 102-172. In this capacity, our department frequently provides personal consultations to members of Congress and high-ranking military officers.

The department's contribution to civilian medicine includes our consultation work and our service as the WHO Collaboration Center for Histological Classification of Tumors of the Urinary Tract and Male Sex Organs. In 2003, the staff participated as coauthors and coeditor of the *WHO Classification of Tumours, Pathology and Genetics of the Urinary System and Male Genitourinary System*, which provide criteria for the diagnosis of tumors.

In 2003, the department collaborated on the identification of novel prostate-specific genes (PCGEM1 and PSGR) and the establishment of new prostate-derived cell lines.

The nephropathology division staff served as primary pathologists in most of the cases submitted, performing light, immunofluorescence, and electron microscopy to render quality diagnosis. Most of the cases are received with a request for performing light, electron, and/or immunofluorescence microscopy, which is essential in the final diagnosis. This includes time-consuming research for clinical data and discussion with the clinicians or contributing pathologists to arrive at the final diagnosis. The staff uses immunohistochemical (peroxidase) methods when tissue for immunofluorescence microscopy is inadequate. Among the 465 human kidney biopsies examined in 2003, 355 (76%) were from federal institutions (up from 246 in 2002) and 110 (24%) were from civilian contributors. The total number of cases reviewed (including research and intramural consults) increased from last year (486 in 2002, 597 in 2003).

Honors

FK Mostofi received the Leopold Koss Medal for distinguished service to the International Society of Urological Pathology in March 2003.

CONSULTATION—GENITOURINARY PATHOLOGY

The number of bladder and kidney consultations has increased. Most of our surgical consultations were on prostate specimens, increasingly from patients under 60 years old.

Most of our prostate biopsies were received from active members of the military, including senior officers. Because of screening programs, we are seeing biopsies on totally asymptomatic patients who are found to have elevated PSA, a nodule on digital rectal examination, or an abnormal ultrasound. These biopsies, especially in a group of young patients from whom 6 or more biopsy specimens were taken, have led to problems in interpretation because we encounter changes not seen before. The major problem in these cases is whether the carcinoma represents latent cancer (prostatic cancer found in patients who die of other causes). The problem is compounded by the fact that many patients have been pretreated with a variety of new drugs.

The department provided consultations on over 5,150 cases, 63% of which were military, VA (primary diagnostic cases), and Public Health cases. In 2003, 61% of cases required a primary diagnosis or a diagnostic change. As in the year before, a minor diagnostic change with respect to a pathological disagreement had major impact on clinical management.

Cases	***Completed***
Military	1,322
Army (515)	
Navy (166)	
Air Force (618)	
FMIL (23)	
Federal	1,911
VA (1,849)	
USPHS (2)	
OFA (60)	
Civilian	1,693
Interdepartmental	224
Total	5,150

CONSULTATION—NEPHROPATHOLOGY

Cases	*Completed*
Military	247
Army (168)	
Navy (53)	
Air Force (26)	
Federal	108
VA (73)	
OFA (35)	
Civilian	110
Interdepartmental	95 (71 walk-ins)
Animal Research	37
Total	597

The department provides telepathology consultation to national and international sites. Half of the telepathology cases are military.

- National and international civilian contributors (17)
- VA (1)
- Military (19)

Nephropathology performed essentially all military and VA renal biopsies, including electron microscopy.

Clinical Appointments

SG Sabnis:

1. Consultant, Department of Pathology, National Naval Medical Center (NNMC).
2. Adjunct Staff Member, Department of Pathology, WRAMC. Dr. Sabnis reviews all kidney biopsies performed at WRAMC and NNMC, and many other military, VA, and federal institutions, which comprise 76% of cases received by the division.
3. Consultant to the Department of Pathology, NNMC.
4. Adjunct Staff Member, Department of Pathology, WRAMC.

EDUCATION—Genitourinary Pathology

Courses

1. April 2003: AFIP, 13th Anatomic Pathology Course (3 hrs)
2. July 2003: Eurotelepathology Course, Genoa, Italy (16 hrs)
3. July 2003: 5-day Annual Urological Pathology Course (48.5 hrs; total man-hours 14,227)
4. August 2003: AFIP Surgical Pathology Course (2hrs)

An Internet-based course on urologic pathology is available on the Web.

Trainees

1. Urology residents from WRAMC spend 1 month in the department and additional time, as required, if they are involved in a joint research project.
2. In 2003, we had 3 fellows/residents in training for a total of 387 days.
3. For 1 day the department was host to 17 military pathology residents from WRAMC and NNMC utilizing glass slides and digitized images.
4. In November 2003, we gave our first Telepathology Video Conference to 15 military pathology departments.

Faculty Appointments

FK Mostofi:

1. Adjunct Professor of Pathology, USUHS, Bethesda, Md, 1976-2003.
2. Associate Professor of Pathology, Johns Hopkins University School of Medicine, Baltimore, Md, 1960-2003.
3. Clinical Professor of Pathology, Georgetown University School of Medicine, Washington, DC, 1961-2003.
4. Clinical Professor of Pathology, University of Maryland, Baltimore, 1968-2003.
5. Honorary Professor, Chinese People's Liberation Army General Hospital and Military Post Graduate Medical School, Beijing, China, 1988-2003.
6. Member, United States Military Cancer Institute, WRAMC, Washington, DC, 2002-2003.

IA Sesterhenn:

1. Assistant Professor of Pathology, USUHS, Bethesda, Md.
2. Member, United States Military Cancer Institute, WRAMC, Washington, DC.

CJ Davis:

1. Assistant Professor of Pathology, USUHS, Bethesda, Md.
2. Member, United States Military Cancer Institute, WRAMC, Washington, DC.

RL Becker:

Adjunct Assistant Professor of Pathology, USUHS, Bethesda, Md.

Presentations

1. March 2003: Washington, DC, US/Canadian Academy of Pathology 92nd Annual Meeting, "Correlation of tumor dimension with pathological stage and grade in prostatic carcinoma," B Furusato, IA Sesterhenn, CJ Davis, DG McLeod, JW Moul, FK Mostofi.
2. March 2003: Washington, DC, US/Canadian Academy of Pathology 92nd Annual Meeting, "Expression of maspin protein in primary urothelial carcinoma," X Pang, IA Sesterhenn, CJ Davis, Z Zhou, FK Mostofi.
3. March 2003: Washington, DC, US/Canadian Academy of Pathology 92nd Annual Meeting, Specialty Conference, "Tumors of the rete testis," IA Sesterhenn.
4. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "Prostate cancer tumor volume does correlate with diagnostic and PSA recurrence," JW Moul, L Banez, L Sun, J Wu, DG McLeod, IA Sesterhenn, FK Mostofi, M Zhao, J Chang.
5. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "PCGEM1, a prostatic-specific gene promoting cell growth is overexpressed in prostatic cancer cells of African Americans," G Petrovics, W Zhang, M Makarem, J Street, R Connelly, IA Sesterhenn, L Sun, JW Moul, S Srivastava.
6. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "Definition of gene expression alterations associated with androgen independent prostate cancer cells and evaluation of Mcm2 gene in prostate cancer carcinogenesis," T Segawa, O Ogawa, AS Merseburger, ME Nau, LL Xu, SY Young, RR Connelly, L Sun, SG McLeod, JW Moul, M Vahey, IA Sesterhenn, S Srivastava.
7. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "Dimension of the largest tumor is a significant predictor of pathological stage and grade in prostatic carcinoma," B Furusato, S Brassell, RR Connelly, IA Sesterhenn, C Davis, DG McLeod, JW Moul, FK Mostofi.
8. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "Evaluation of prostate cancer-associated gene expression patterns in high-risk prostate cancer patients," S Shaheduzzamen, D Ko, M Nau, M Vahey, IA Sesterhenn, JW Moul, JS Rhim, S Srivastava.
9. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "A novel gene DERPC located on 16q22.1 inhibits prostate tumor cell growth and its expression is decreased in prostate and renal tumors," M Sun, L Ma, L Xu, V Srikantan, W Zhang, G Petrovics, M Makarem, IA Sesterhenn, JW Moul, S Srivastava, Z Zou.
10. April 2003: Chicago, Ill, American Urological Association Annual Meeting, "Alteration of 6qtsg1, a novel candidate tumor suppressor gene is associated with prostate cancer progression," Z Zou, M Sun, L Ma, J Li, V Srikantan, W Zhang, G Petrovics, M Makarem, IA Sesterhenn, JW Moul, S Chandrasekharappa, S Srivastava.
11. November 2003: New York, NY, CapCURE 10th Annual Scientific Retreat, "Gene expression signatures in benign and malignant epithelial cells of prostate cancer patients with aggressive and non-aggressive disease," S Shaheduzzaman, V Srikantan, G Petrovics, B Furusato, M Nau, W Zhang, L Xu, L Sun, IA Sesterhenn, M Vahey, DG McLeod, JW Moul, S Srivastava.
12. December 2003: Society for Urologic Oncology, "Gene expression signatures in benign and malignant epithelial cells of prostate cancer patients with aggressive and non-aggressive disease," G Petrovics, S Shaheduzzaman, V Srikantan, B Furusato, ME Nau, W Zhang, L Xu, L Sun, IA Sesterhenn, M Vahey, DG McLeod, JW Moul, S Srivastava.

EDUCATION—Nephropathology

Courses

1. AFIP Annual Anatomic Pathology Review Course, SG Sabnis (69 man-hours).

2. Monthly renal biopsy conference for staff and fellows, Division of Nephrology, WRAMC and National Naval Medical center, Staff (200 man-hours).
3. Monthly biopsy conference, Federal Medical Monthly Nephrology Seminar, USUHS, Bethesda, Md, SG Sabnis (350 man hours).

Trainees

- Since 1998, the division has trained 6 Callender-Binford Nephropathology Fellows (1 to 2 years). In 2003, the division had 14 pathology and nephrology trainees (451 training days); 6 from federal institutions, 2 foreign nationals, and 6 from nonfederal institutions. Microscopic pathology conferences were held daily for 3 hours (2,400 man-hours). The conferences and lectures provided on-the-job training for 14 fellows (1,391 man-hours).
- Dr. Sabnis trains pathology fellows for electron microscopy for the joint residency program of WRAMC and NNMC.
- The division trains the post-graduate nephrology fellows at WRAMC and NNMC.

Faculty Appointments

SG Sabnis:

1. Clinical Associate Professor of Pathology, USUHS, Bethesda, Md.
2. Clinical Associate Professor, Georgetown University, Department of Pathology.
3. Adjunct Associate Professor, George Washington University, Department of Pathology.
4. Clinical Associate Professor, Howard University, Department of Pathology.
5. Honorary Professor, Muljibhai Urological Institute, Nadiad, Gujrat, India.

Presentations

1. August 2003: Mumbai, India, Topiwala National Medical College, "What's new in nephropathology?" SG Sabnis.
2. August 2003: Nadiad, India, Muljibhai Urological Institute, "Nephropathology workshop," SG Sabnis.
3. October 2003: Bangkok, Thailand, Ramathibodi Hospital, "Pathology of lupus nephritis," SG Sabnis.
4. October 2003: Bangkok, Thailand, Ramathibodi Hospital, "Evaluation of kidney biopsy," SG Sabnis.
5. October 2003: Bangkok, Thailand, Ramathibodi Hospital, "Case presentations," SG Sabnis.
6. October 2003: Washington, DC, WRAMC, Department of Pathology, "Pathology of renal transplants," SG Sabnis.
7. November 2003: Baltimore, Md, Johns Hopkins Bayview Medical Center, Johns Hopkins University, "Unusual cases in nephropathology," SG Sabnis.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Departmental Projects—Genitourinary Pathology

1. Studies of various renal tumors in adults (Wilms' tumor, certain epithelial tumors, multilocular cystic nephroma), and a group of renal hamartomas (angiomyolipoma, capsuloma, adenoleiomyofibroma).
2. Review of testicular tumors in infants and children.
3. Studies of carcinoma in situ of the bladder.

Projects—Nephropathology

1. Does combination of pirfenidone, enalapril, and lovastatin reduce proteinuria and glomerular/interstitial histologic score in rats with PAN-induced FSGS and existing nephrotic syndrome? (WRAMC/AFIP).
2. Pattern of protein size- and charge-selectivity in clinical kidney disease (WRAMC/AFIP).

Projects with Military/Federal Collaborators

1. Center for Prostate Disease Research, Urology Services of WRAMC, Naval Medical Center, San Diego, Malcolm Grow Medical Center, Madigan Army Medical Center, Brook Army Medical Center, and USUHS:

- Keratinization of prostate cancer-associated tumor suppressor gene locus on chromosome 6q16.1.
- Maspin expression profile in prostate cancer: an induction of maspin by androgen ablation.

- Keratinization of PCGEM1, a novel prostate-specific gene overexpressed in prostate cancer.
- A novel prostate-specific G-protein-coupled receptor gene, PSGR, is overexpressed in prostate cancer.
- Preclinical evaluation of prostate-specific G-protein-coupled receptor, PSGR, for developing prostate vaccine.
- SAGE bioinformatics to define prostate-specific and prostate cancer-associated quantitative gene expression profiles.
- Coordinated gene expression patterns define endoplasmic reticulum (ER) stress response pathway as a novel component of androgen signaling in prostate cancer cells.
- CPDR prostate tissue LCM-based RNA/DNA bank.
- The Prostate Cancer Cell Center in CPDR.
- Prostate cancer vaccine program.

2. Speckle-free attenuation ultrasound prostate imaging. Imperium Inc. and Urology Service, WRAMC.

3. The utility of gene-specific DNA hypermethylation within diagnostic sextant biopsies as an early detection molecular marker of prostate cancer. Cancer Prevention Studies Branch, Center for Cancer Research, NCI and WRAMC.

Projects with Civilian Collaborators

1. International study on familial testicular tumors. Division of Epidemiology and Genetics, NCI.
2. Comparison of Chinese and American prostatic carcinomas. Division of Cancer, Epidemiology and Genetics, NCI.
3. Clinical trial with combination therapy in locally advanced prostatic carcinoma. Beth Israel Deaconess Medical Center, Boston (Urology, Pathology and Oncology Departments).
4. Classification of canine bladder tumors. American Veterinary Association.
5. A phase 2, open-label, randomized study to evaluate the efficacy of CP-675-206 in combination with neoadjuvant androgen ablation and androgen ablation alone in patients with high-risk prostate cancer. Pfizer Global Research and Development.

Projects in Collaboration with Hepatic and Gastrointestinal Pathology, AFIP

1. Evaluation of liver histology in a double-blind placebo-controlled, randomized dose ranging study of recombinant human interleukin-10 (Tenovil) for treatment of hepatic fibrosis in patients with chronic hepatitis C who failed to respond to previous combination therapy (interferon alfa-2b plus ribavirin).
2. Morphometric analysis of distribution of fibrosis.
3. Evaluation of liver histology in a phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated fibrosis due to hepatitis C.

Research Funds Received

$100,80 – HMJ for supplies and personnel (GU Laboratory and Fellow)

$27,000 – NCI (Familial Testicular Tumor Study)

PROFESSIONAL ACTIVITIES

Official Trips

1. February 2003, Department of Pathology, Columbus, Ohio, RL Becker (Ohio State University).
2. March 2003, US/Canadian Academy of Pathology, Washington, DC, RL Becker (AFIP), IA Sesterhenn.
3. March 2003, US/Canadian Academy of Pathology Annual Meeting, Washington, DC (ARP), SG Sabnis.
4. April 2003, 98th AUA Annual Meeting, Chicago, Ill, IA Sesterhenn.
5. June 2003, National Cancer Research Institute, Advanced Biotechnology Center, Genoa, Italy, IA Sesterhenn (National Cancer Institute of Italy).
6. July 2003, Tokyo Genitourinary Working Group, Tokyo, Japan, IA Sesterhenn (Kyorin University).
7. August 2003, Topiwala National Medical College, Mumbai, India (ARP), SG Sabnis.
8. August 2003, Nadiad, India, Muljibhai Urological Institute (ARP), SG Sabnis.

9. September 2003, 19th European Congress of Pathology, Ljubljana, Slovenia, IA Sesterhenn (IARC).
10. October 2003, Bangkok, Thailand, Ramathibodi Hospital (Ramathibodi Hospital), SG Sabnis.
11. December 2003, International Agency for Research and Cancer, Lyon, France, IA Sesterhenn (IARC).

Manuscripts Reviewed

FK Mostofi, CJ Davis, and IA Sesterhenn reviewed 10 manuscripts for the following professional journals:

1. *Journal of Urology*
2. *Urology*
3. *The Prostate*
4. *Cancer*

Editorial Boards

RL Becker:
Applied Immunohistochemistry and Molecular Morphology

SG Sabnis:
1. *Transplantation India*
2. *Archives of Medical Research (Mexico City)*

Brian L. Strauss, Lt Col (s), USAFR, MC, PhD
Interim Chair
Date of Appointment — 19 August 2002

DEPARTMENT OF GYNECOLOGIC AND BREAST PATHOLOGY

STAFF

Medical

Brian L. Strauss, Lt Col (s), USAFR, MC, PhD, Interim Chair
Ross Barner, MAJ, MC, USA, Vice Chair
(D) Merille E. Herrmann, Staff Pathologist
(A) James W. Keating, Staff Pathologist
Chang Y. Liang, COL, USAF, MC
(D) Jeff S. Saenger, MAJ, MC, USA
(D) Russell S. Vang, Staff Pathologist
(A) Tuyethoa N. Vinh, Staff Pathologist
Darren T. Wheeler, MAJ, MC, USAR

Scientific

Gary Bratthauer, MS
Yan-Gao Man, MD, PhD

Administrative

Angeline Edmonds, Secretary
Consuelo Lewis, Administrative Assistant

IMPACT

The department had many personnel changes in 2002 and 2003. Despite these transitions, we have continued reviewing one of the highest numbers of slides in the Institute, and have increased the number of published articles and collaborative projects. In addition, the department took administrative and supervisory responsibility for the Division of Cytopathology and continued responsibility for the Division of Prenatal, Perinatal, and Placental Pathology. Candidates for the position of Chair were interviewed throughout the year, and we look forward to the new opportunities that change will bring in the upcoming year.

CONSULTATION

Cases	*Completed*
Military	1,766
Army (892)	
Navy (340)	
Air Force (515)	
FMIL (19)	
Federal	158
VA (299)	
USPHS (9)	
OFA (50)	
Civilian	2,211
Interdepartmental	149
Total	4,484

Deployments

1. January 2003, TDY Andrews AFB, CY Liang, Manning Assistance (Pathologist Staffing).
2. July 13-20, 2003, TDY Elemendorf AFB, BL Strauss, Manning Assistance (Pathologist Staffing).

EDUCATION

Presentations

1. March 2003: Washington, DC, US/Canadian Academy of Pathology Annual Meeting, "STAT-5a expression in breast is maintained in secretory carcinoma in contrast to other histologic types," BL Strauss, GL Bratthauer.
2. March 2003: Washington, DC, US/Canadian Academy of Pathology Annual Meeting, "Development and progression of mammary ductal tumors appear to be mediated by surrounding myoepithelial cells," YG Man, RS Vang, JS Saenger, BL Strauss, R Barner, DT Wheeler, CY Liang, GL Bratthauer.
3. March 2003: Washington, DC, US/Canadian Academy of Pathology Annual Meeting, "A subset of morphologically identifiable mammary myoepithelial cells lacks expression of corresponding phenotypic markers," R Zang, YG Man, BL Strauss, RS Vang, JS Saenger, R Barner, D Wheeler, CY Liang.
4. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Review Course, "Selected problematic breast lesions: variations on the theme," R Barner.
5. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Review Course, "Pathology of the uterine cervix," DT Wheeler.
6. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Review Course, "Papillary lesions of the breast," J Saenger.
7. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Review Course, "Pathology of the uterine corpus," BL Strauss.
8. July 2003: Washington, DC, American Association for Cancer Research, "Identification of invasive precursor cells in normal and hyperplastic breast tissue," YG Man, JS Saenger, RS Vang, R Barner, D Wheeler, A Martinez, JL Mulshine.
9. July 2003: Tallahassee, Fla, Chemistry and Biochemistry Institute, Florida State University, "New concept and approaches for early detection of breast tumor progression and invasion," YG Man.
10. September 2003: New Orleans, La, American Society for Clinical Pathology Annual Meeting, "Antibody to p63 reacts with the epithelial cells of secretory carcinoma of the breast," GL Bratthauer.
11. December 2003: San Antonio, Tex, 26th San Antonio Breast Cancer Symposium, "BP1 expression correlates with breast tumor aggressiveness," P Berg, SW Fu, JJ Pinzone, YG Man.
12. December 2003: San Antonio, Tex, 26th San Antonio Breast Cancer Symposium, "Endometase in human breast carcinomas, selective activation of progelatinase B and inhibition by tissue inhibitors of metalloproteinases-2 and –4," YG Zhao, AZ Xiao, HI Park, RG Newcomer, M Yan, YG Man, SC Heffelfinger, QXA Sang.
13. December 2003: San Antonio, Tex, 26th San Antonio Breast Cancer Symposium, "A subset of normal and hyperplastic appearing mammary ductal cells display invasive features," YG Man, R Mattu, R Zhang, M Yousefi, QXA Sang, T Shen.
14. December 2003: San Antonio, Tex, 26th San Antonio Breast Cancer Symposium, "A subset of mammary epithelial cells overlying focally disrupted myoepithelial cell layers shows an unusual immunostaining pattern for proliferation-related proteins," YG Man, R Zhang, R Mattu, T Shen, OXA Sang.
15. December 2003: Washington, DC, National Capital Consortium Pathology Residency Morning Lecture, WRAMC, "Selected problematic breast lesions," R Barner.
16. December 2003: Washington, DC, National Capital Consortium Pathology Residency Morning Lecture, WRAMC, "Gyn and breast unknown slide session," R Barner.
17. December 2003: Washington, DC, WRAMC, Pathology Residents Conference, "Selected topics in breast pathology," BL Strauss.
18. December 2003: Washington, DC, WRAMC, Pathology Residents Conference, "Uterine and ovarian stromal lesions," BL Strauss.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Lobular intraepithelial neoplasia (LIN) of the breast: an examination of the relationship to ductal disease and infiltrating carcinomas.
2. STAT 5a in in situ ductal and lobular lesions and in invasive breast carcinomas.
3. Comparison of novel myoepithelial cell immunohistochemical markers with more established immunomarkers in the human breast.
4. Invasive tubulolobular carcinomas of the breast.
5. New approaches for the early detection of breast cancer.
6. Serous-LMP tumors of the ovary.
7. Low grade spindle cell carcinoma of the breast.
8. Comparison of new and old myoepithelial markers.
9. Genetic alterations in breast neoplasia.
10. Detection of male breast tumor invasion.
11. Loss of heterozygosity in bilateral breast.
12. STAT-5a expression in normal breast, DIN/LIN (in situ disease), and infiltrating breast carcinoma with comparison of expression in their secretory variants and cases with usual morphology.

Collaborators

Military/Federal

1. Dr. Ira Pastan, Chief, Laboratory of Molecular Biology, NCI, NIH.
2. Dr. James L. Mulshine, Head of Intervention Section, NCI, NIH.
3. Dr. Robert F. Bonner, Chief of Section on Medical Biophysics, NIH.

Civilian

1. Dr. Patricia Berg, Associate Professor, George Washington University Medical Center.
2. Dr. Judith Weiss, Director of Obstetrics and Gynecologic Research Lab, Hershey Medical Center.
3. Dr. Qing-xiang Amy Sang, Associate Professor, Florida State University.
4. Dr. Ting Shen, Director of Breast and Gynecologic Pathology, Temple University Hospital.

PROFESSIONAL ACTIVITIES

Official Trips

1. March 2003, US/Canadian Academy of Pathology Annual Meeting, Washington, DC, G Bratthauer (ARP).
2. September 2003, American Society for Clinical Pathology Annual Meeting, New Orleans, La, G Bratthauer (ARP).
3. October – December 2003, Phase I Non-Resident Studies Command General and Staff College (CGSC), R Barner.

Manuscripts Reviewed

YG Man:

1. *Clinical Cancer Research*
2. *Cancer Detection and Prevention*

DIVISION OF CYTOPATHOLOGY

ORGANIZATION

1. Consultation Service
2. Armed Forces Cytocenter

STAFF

Medical:

James W. Keating Jr., MD, Chief
Sally-Beth Buckner, SCT(ASCP), IAC, Cytotechnologist
Yiquin Feng, CT(ASCP), Cytotechnologist

Administrative:

Nawera Haque, Accessioning Clerk

DIAGNOSTIC CONSULTATION

Cases	*Completed*
Consultation Service	1,392
Armed Forces Cytocenter	26,111
Total	27,503

Approximately 25% of the consultation service cases required immunohistochemical staining. The Air Force Cytocenter caseload of 26,111 cases contributes directly to military readiness in that a large proportion of these smears are from active duty women.

Quality Assurance:

The division participated in proficiency testing exercises and passed the CAP inspection.

Hernando Mena, COL, MC, USA
Chair
Date of Appointment — 6 March 1995

DEPARTMENT OF NEUROPATHOLOGY AND OPHTHALMIC PATHOLOGY

STAFF (Neuropathology and Neuromuscular Pathology)

Medical

Hernando Mena, COL, MC, USA, Chair
Elisabeth J. Rushing, COL, MC, USA, Assistant Chair
(D) James M. Henry, MD, Chief, Division of Neuropathology, ARP
(D) Kondi Wong, LtCol, USAF, MC, Chief, Division of Neuromuscular Pathology
Glenn D. Sandberg, LTC, MC, USA, Staff Neuropathologist
John-Paul Bouffard, LtCol, USAF, MC, Chief, Division of Neuromuscular Pathology
(D) Lorna R. Cruz, MD, Second-Year Resident, ARP
Miguel A. Riudavets, MD, Second-Year Resident, ARP

Administrative

Erlinda T. Castro, Secretary, ARP

IMPACT

Due to their diagnostic expertise, our staff are constantly in demand for lectures at military and civilian hospitals such as Walter Reed Army Medical Center (WRAMC), National Naval Medical Center, Uniformed Services University of the Health Sciences (USUHS), University of Maryland Medical System, Baltimore, Md, Georgetown University Medical Center, and Washington Hospital Medical Center. We have established a close relationship with the Department of Pathology and the Neurosurgery Service at WRAMC for the interpretation of intraoperative consultations and tumor board cases.

This is the only military program fully accredited by the Accreditation Council for Graduate Medical Education for the training of medical officers, including neurosurgeons and neurologists, in the field of neuropathology. Our trainees have consistently received high marks in exams leading to board certification, and many have achieved international recognition for their research in neuropathology. Military and civilian physicians in training in neurology, neurosurgery, and pathology from medical centers nationwide and abroad regularly attend the semiannual intensive 3-month didactic course designed to prepare physicians for specialty board certification.

As part of the investigation of the space shuttle Columbia disaster, members of our staff processed remains for neuropathological examination, and performed and reported gross and histologic reviews of space shuttle astronauts' brains.

Honors

Kondi Wong, Lt Col, USAF, MC, Joint Service Commendation Medal, June 3003.

CONSULTATION

Our department provides neuropathology review on selected cases from the OAFME and the VA. Cases submitted include surgical specimens, whole brains obtained at autopsy, skeletal muscle biopsy specimens from cases of medical disorders of skeletal muscle, peripheral nerve biopsy specimens, and skin biopsy specimens from suspected cases of storage disease. All cases

accompanied by radiologic studies are reviewed in conference with the neuroradiology staff of the Department of Radiologic Pathology. Whole brains are serially sectioned and studied according to standardized protocols for specific disorders. Skeletal muscle biopsy specimens are routinely examined using histochemical stains, enzyme histochemical methods, and in selected cases, with immunohistochemistry and electron microscopy. Peripheral nerve and skin biopsy material are evaluated with light and electron microscopy.

In 2003, the divisions of Neuropathology and Neuromuscular Pathology made no change in the contributor diagnosis in 462 cases, a minor change in diagnosis in 121 cases, and a major change in diagnosis in 22 cases. We received 952 cases with no contributor diagnosis.

DIVISION OF NEUROPATHOLOGY

Cases	*Completed*
Military	199
Army (126)	
Navy (43)	
Air Force (30)	
Federal	135
VA (118)	
OFA (17)	
Civilian	648
Interdepartmental	79
Total	981

DIVISION OF NEUROMUSCULAR PATHOLOGY

Cases	*Completed*
Military	120
Army (57)	
Navy (29)	
Air Force (34)	
Federal	147
VA (129)	
OFA (18)	
Civilian	325
Interdepartmental	7
Total	599

Clinical Appointments

1. WRAMC, Consultant in Neuropathology, H Mena.
2. WRAMC, Consultant in Neuropathology, GD Sandberg.
3. WRAMC, Affiliated Staff Pathologist, J-P Bouffard.

Deployments

1. January 21, 28, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
2. February 6, 7, Dover Air Force Base, Consultant for the OAFME, space shuttle Columbia mission, GD Sandberg.
3. March 10, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
4. March 11-12, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
5. April 28, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
6. June 16, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
7. July 17, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
8. August 26, 28, WRAMC, Consultant, Department of Pathology, J-P Bouffard.
9. July 29-30, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
10. September 30-October 1, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
11. October 16, WRAMC, Consultant, Department of Pathology, J-P Bouffard.

12. November 18-19, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.

EDUCATION

Clinicopathologic Conferences

1. Neuropathology and Ophthalmic Pathology, AFIP: Daily sign-out conference.
2. Department of Pathology, WRAMC: Weekly intraoperative diagnosis of neurosurgical specimens.
3. WRAMC: Monthly neurosurgery tumor board.
4. Department of Neuropathology, AFIP:
   —Weekly neuropathology/neuroradiology conference.
   —Bimonthly review of muscle biopsies with the staff of the Connective Tissue Disease Section, NIH.
   —Monthly journal club.

Courses

Members of our staff participated as faculty members in 4 AFIP-sponsored general pathology courses and 1 non-AFIP course:

1. January-March 2003: AFIP Neuropathology Seminars, 21 attendees.
2. February 24-28, 2003: Bethesda, Md, 41st Annual Neuropathology Review, 143 attendees.
3. April 7-12, 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Review Course.
4. July-September 2003: AFIP Neuropathology Seminars, 18 attendees.

Trainees

The department is fully approved for residency training in neuropathology by the Residency Review Committee for Pathology of the Accreditation Council for Graduate Medical Education. In 2003 the department had 2 full-time residents for a total of 500 training days.

Faculty Appointments

1. University of Maryland Medical System, Baltimore, Md, Clinical Assistant Professor, Department of Pathology, H Mena.
2. University of Louisville School of Medicine, Louisville, Ky, Clinical Professor of Pathology and Neurological Surgery, JM Henry.
3. USUHS, Bethesda, Md, Clinical Assistant Professor, Neurosciences Group, K Wong.
4. USUHS, Bethesda, Md, Clinical Assistant Professor, Department of Pathology, K Wong.
5. Georgetown University, Washington, DC, Adjunct Associate Professor, Department of Pathology, EJ Rushing.
6. University of California, Berkeley and San Francisco, Teaching Faculty, Principles of Human Pathology, Joint Medical Program, K Wong.

Presentations

1. January 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, “Lysosomal/peroxysomal disorders,” H Mena.
2. January 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, “Surgical neuropathology,” EJ Rushing.
3. January 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology “Surgical neuropathology unknowns,” EJ Rushing.
4. January 2003: Washington, DC, WRAMC, Department of Pathology, “Brain cutting conference,” J-P Bouffard.
5. January 2003: Washington, DC, Washington Hospital Center, Department of Neurosurgery, “Selected topics in surgical neuropathology I,” EJ Rushing.
6. February 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, “Neurodegenerative diseases,” H Mena.
7. February 2003: Bethesda, Md, AFIP 41st Annual Neuropathology Review, “Introduction to neuropathology,” GD Sandberg.
8. February 2003: Bethesda, Md, AFIP 41st Annual Neuropathology Review, “Embryonal, neuronal and mixed neuronal-glial neoplasms of the central nervous system,” H Mena.
9. February 2003: Bethesda, Md, AFIP 41st Annual Neuropathology Review, “Pediatric neuropathology,” JM Henry.
10. February 2003: Bethesda, Md, AFIP 41st Annual Neuropathology Review, “Toxic and metabolic diseases of the central nervous system,” EJ Rushing.
11. February 2003: Washington, DC, Georgetown University Medical Center, Department of

Pathology, "Surgical neuropathology unknowns," EJ Rushing.

12. February 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Astrocytomas," EJ Rushing.
13. March 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Bacterial infections of the CNS," H Mena.
14. March 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of brain gross examination," GD Sandberg.
15. March 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
16. March 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, " Astrocytomas," GD Sandberg.
17. March 2003: Washington, DC, Washington Hospital Center, Department of Neurosurgery, "Selected topics in surgical neuropathology II," EJ Rushing.
18. March 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
19. April 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Pituitary pathology," EJ Rushing.
20. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Course, "Introduction to neuropathology," GD Sandberg.
21. April 2003: Rockville, Md, AFIP 13th Annual Anatomic Pathology Course, "Glial neoplasms," JM Henry.
22. April 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
23. April 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, " Pathology residents: neuropathology quiz I," EJ Rushing.
24. April 2003: Amsterdam, The Netherlands, Euro-CNS, Muscle and Nerve Disorders Course," Systemic approach to muscle disorders and rheumatic diseases," K Wong.
25. May 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Atypical teratoid/rhabdoid tumors of the central nervous system," J-P Bouffard.
26. May 2003: Washington, DC, Washington Hospital Center, Department of Neurosurgery, "Selected topics in surgical neuropathology III," EJ Rushing.
27. May 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Pathology residents: neuropathology quiz II," EJ Rushing.
28. June 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Unknown slide conference," EJ Rushing.
29. June 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
30. June 2003: Orlando, Fla, American Association of Neuropathologists 79th Annual Meeting, Poster Presentation, "Moebius syndrome with ptosis, absent facial expression, cranial nerve VI/VII palsies with facial, abducens and hypoglossal nuclei pathology," L Cruz.
31. June 2003: Orlando, Fla, American Association of Neuropathologists 79th Annual Meeting, Poster Presentation, "Neuropathology of the brain and spinal cord in human West Nile infection," J-P Bouffard.
32. June 2003: Orlando, Fla, American Association of Neuropathologists 79th Annual Meeting, Poster Presentation, "Neuropathology of calcarine cortex layer 4B and hippocampal CA2-4 regions with brain stem-type Lewy bodies and sparing of CA1: a study of 14 patients with Gaucher disease," K Wong.
33. June 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
34. June 2003: Bethesda, Md, NIH Workshop on Gaucher Disease and Parkinsonism, "The neuropathology of Gaucher disease: a study of 14 cases," K Wong.
35. July 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
36. July 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.
37. July 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
38. July 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Gliomas, excluding astrocytomas," GD Sandberg.
39. July 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting

conference," J-P Bouffard.
40. August 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Unknown slide conference," EJ Rushing.
41. August 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
42. September 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Pituitary gland pathology," H Mena.
43. September 2003: El Paso, Tex, Texas Tech Health Sciences Center, Diagnostic Medicine at the Border, "Glial tumors: new developments," H Mena.
44. September 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.
45. October 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
46. October 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Glioneuronal tumors," GD Sandberg.
47. October 2003: Washington, DC, Washington Hospital Center, Department of Neurosurgery, " Selected topics in surgical neuropathology IV," EJ Rushing.
48. October 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
49. October 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Non-glial tumors," H Mena.
50. October 2003: Berlin, Germany, Meeting of the Deutsche Gesellschaft fuer Neuropathologie und Neuroanatomie, Poster Presentation, "Five cases of intracranial Erdheim-Chester disease: the clinicopathological spectrum," EJ Rushing.
51. October 2003: Orlando, Fla, American College of Rheumatology Annual Meeting, "Histological diagnosis of muscle disorders," K Wong.
52. October 2003: Orlando, Fla, American College of Rheumatology Annual Meeting, Meet the Professor Workshops,"Vasculitis workshop," K Wong.
53. November 2003: New York, NY, Office of the Chief Medical Examiner, "Morphological aspects of brain infarction," H Mena.
54. November 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Unknown slide conference," EJ Rushing.
55. November 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.
56. November 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
57. November 2003: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Pineal region tumors," GD Sandberg.
58. November 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Vascular disorders of the central nervous system," H Mena.
59. November 2003: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
60. November 2003: Vienna, Austria, Euro-CNS, Muscle and Nerve Disorders Course, "Approach on muscle pathology and rheumatic diseases, muscle disorders and rheumatologic diseases," K Wong.
61. December 2003: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Pathology residents: quiz," EJ Rushing.
62. December 2003: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Central nervous system malformations," H Mena.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Penetrating head injury in Operation Desert Storm.
2. Comparative 3-dimensional reconstruction and quantitative analysis of Alzheimer's disease and age-matched control brains.
3. The specificity of florid plaques in the diagnosis of new variant Creutzfeldt-Jakob disease.

4. A proteolipid protein (PLP) double frameshift mutation causing abnormalities in major myelin structural protein stoichiometry in patients with combined central white matter abnormality and peripheral neuropathy.
5. Ischemic lesions of the brain that mimic brain tumors.
6. Proliferation markers of potential diagnostic and prognostic value in astrocytomas WHO grades II and III.
7. Mechanisms of autoimmunity in inflammatory muscle disease.
8. Diagnosis of Alzheimer's disease: reappraisal of specific features.
9. Erythropoietin (EPO) and erythropoietin receptor (EPOR) expression in human glial neoplasms involved in hypoxic signaling mechanisms.
10. Malignant astrocytic tumors of the spinal cord.
11. Neuropathology of diabetic neuropathy in the autonomic nervous system of streptozotocin-treated rats.
12. Morphologic clues to the pathogenesis of neuronopathic Gaucher disease.
13. Primary cerebellar tumors: a comparative study.
14. Incidence of neuritic plaques related to brain radiation therapy.
15. Genotyping and expression profiling of skeletal muscle ion channel diseases (eg malignant hyperthermia) affecting military, active duty personnel.
16. Extracentral nervous system meningiomas
17. Meningiomas: study of unusual variants.
18. Pleomorphic xanthoastrocytoma: immunohistochemical and clinicopathological studies for evaluation of aggressive variants.
19. Pilocytic astrocytoma of the infundibulum (infundibuloma).
20. Parkinson's disease: a clinicopathologic and molecular correlation of postencephalitic and Japanese B variants.

Collaborators

Military/Federal

1. Ajay Verma, USUHS, Bethesda, Md. Human glioma research: glioblastoma multiforme erythropoietin and erythropoietin receptor expression and positive feedback causing anaplasia and resistance to cisplatin chemotherapy and hypoxic effects of radiation therapy.
2. Aaron Auerbach, NIH, Bethesda, Md. Intracranial solitary fibrous tumor.
3. Raphael Schiffmann, National Institute of Neurologic Disorders and Stroke, NIH, Bethesda, Md:
   —Childhood ataxia with cerebral hypomyelination syndrome: vanishing white matter disease: Cree leukoencephalopathy (CACH-VWN-CLE).
   —Dysmyelinating diseases: proteolipid protein mutations causing peripheral nerve dysmyelinating disease and misdistribution of myelin proteins.
   —Gaucher disease: neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.
4. Ellen Sidransky, Section on Molecular Neurogenetics, National Institutes of Mental Health, NIH, Bethesda, Md. Genetics of neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.
5. Nina Raben, Paul Plotz, National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH, Bethesda, Md:
   —Transgenic mouse models of alpha 1, 4 glucosidase deficiency (Pompe's disease) treated with enzyme replacement therapy.
   —Granzyme B mediated autoimmune disease.
6. David L. Kastner, Keith M. Hull, National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH, Bethesda, Md. Monocytic fasciitis associated with TNF-receptor associated periodic syndrome (TRAPS).
7. Richard H. Quarles, Michel D. Weiss, Myelin and Brain Development Section, Laboratory of Molecular and Cell Neurobiology, NINDS, NIH, Bethesda, Md. Dysmyelinating diseases: proteolipid protein mutations causing peripheral nerve dysmyelinating disease and misdistribution of myelin proteins.

Civilian

1. Ravi Raghavan, University of Texas Southwestern Medical Center, Dallas, Tex. Pediatric oligodendrogliomas: molecular alterations on 1p 19q.

2. Brock Kaya, University of Hawaii, Honolulu. Alpha-internexin expression in medulloblastomas and atypical teratoid/rhabdoid tumors of the central nervous system.
3. Mariarita Santi, Children's Hospital National Medical Center, Washington, DC. Spinal cord malignant astrocytomas.
4. Diego Cadavid, University of Medicine and Dentistry of New Jersey, Newark. Morphological studies of human cerebral infarct.
5. Paul E. McKeever, University of Michigan Medical School, Ann Arbor. Proliferation markers of potential diagnostic and prognostic value in astrocytomas WHO grades II and III.
6. Juan C. Troncoso, Johns Hopkins University School of Medicine, Baltimore, Md. Histological review of brains in Baltimore longitudinal study of aging (BLSA).
7. Friedrich Unterharnscheidt, Lexington, Ky. Neuropathology of boxing injuries.
8. David N. Louis, Matthew P. Frosch, Harvard University School of Medicine, Boston, Mass. AFIP central nervous system atlas on non-tumor pathology.
9. Peter Burger, Johns Hopkins University School of Medicine, Baltimore, Md. Histological review of ependymomas.
10. K. Nagaraju, Division of Molecular and Clinical Rheumatology, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Md. Granzyme B mediated autoimmune disease.
11. Darlene R. Ketten, Woods Hole Oceanographic Institute, Woods Hole, Mass. Blast trauma research on beaked whales.
12. Martha Quezado, NIH-National Cancer Institute, Bethesda, Md. Studies on brain tumors.
13. Charles Eberhart, Tarik Tihan, Johns Hopkins University School of Medicine, Baltimore, Md. Histology and immunohistochemistry of Lhermitte-Duclos disease.

International

Anthony H. Futerman, Weizman Institute of Science, Rehovot, Israel. Gaucher disease: biochemistry of neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.

Interdepartmental

1. Marku Miettenen, Soft Tissue Pathology. Internexin expression in medulloblastomas; Immunohistochemistry of meningiomas and mesenchymal tumors of the central nervous system.
2. Lester Thompson, Endocrine and Otorhinolaryngic/Head-Neck Pathology. Extracentral nervous system meningiomas and dysembryoplastic neuroepithelial tumor.
3. Kelly Koeller, Radiologic Pathology. Spinal cord malignant astrocytomas.

PROFESSIONAL ACTIVITIES

Official Trips

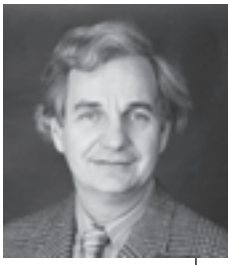
1. June 2003, 79th Annual Meeting of the American Association of Neuropathologists, Orlando, Fla, GD Sandberg, K Wong, J-P Bouffard, LR Cruz, MA Riudavets (AFIP, ARP).
2. October 2003, Deutsche Gesellschaft fuer Neuropathologie und Neuroanatomie, Berlin, Germany, EJ Rushing (ARP).

Manuscripts Reviewed

Members of the department reviewed 1 manuscript for the *Journal of Neuropathology and Experimental Neurology*.

Editorial Boards

Annals of Diagnostic Pathology, H Mena.



Ian W. McLean, MD
Chair
Date of Appointment — 21 November 1986

DIVISION OF OPHTHALMIC PATHOLOGY

STAFF

Medical

Ian W. McLean, MD, Chair
Ahmed A. Hidayat, MD, Associate Chief
Emiko Furusato, MD, Fellow

Administrative

Alonzo L. Ray Jr, Secretary

IMPACT

- The division provides consultation services to pathologists of the Armed Forces, VA, US Public Health Service, and to civilians. Complete gross and microscopic examinations are made on enucleated eyeballs for contributors from hospitals where facilities and trained personnel are not available for this specialized work. Diagnoses are provided to medical centers on microslides of interesting, unusual, and/or difficult cases.
- Division staff conduct research based on the wealth of accumulated case material in the Registry of Ophthalmic Pathology. Research is often conducted with outside scientists or in collaboration with personnel in other departments and divisions, involving special histochemical, immunological, and electron microscopic techniques and specialized equipment.
- The division administers graduate training in ophthalmic pathology to residents and fellows, and organizes and conducts courses in ophthalmic pathology.

CONSULTATION

The division provided consultation services to military and VA hospitals. This amounted to "first echelon" support for most of these contributors. Very few governmental hospitals have either technical or professional personnel trained to prepare whole eyes for histopathologic study or to evaluate alterations in sectioned eyes. The division, therefore, served as the central laboratory for routine diagnostic work in ophthalmic pathology and provided consultation services as well. Similarly, there are many civilian communities throughout the world where no facilities are available for this work. Through the auspices of the Registry of Ophthalmic Pathology, sponsored by the American Academy of Ophthalmology, the division rendered consultation services to civilian contributors. Much of the routine work has been diverted to ophthalmic pathology laboratories at universities and other institutions. These laboratories now provide high-quality service and forward only the particularly difficult or unusually interesting cases to the AFIP, so that our division is receiving fewer but more difficult cases.

In 20 cases, we had major disagreements with the contributor; in 90 cases, there were minor diagnostic changes; and in 323 cases, no contributor diagnosis was given. We agreed with the contributor in 403 of the cases.

The scientific laboratory handled 756 cases by processing wet tissue, preparing histologic slides, and special stains. Immunohistochemistry was required in 84 cases and electron microscopy in 13 cases. In most of the 305 cases received without a diagnosis the scientific laboratory processed wet tissue. Whole eye specimens received as wet tissue were carefully grossed to identify the pathology.

Cases	*Completed*
Military	.81
Federal(VA/PHS/OFA)	111
Civilian	472
Interdepartmental	1
Total	651

EDUCATION

Courses

In 2003, the division presented its annual course, "Ophthalmic Pathology for Ophthalmologists," at the, AFIP. Dr. Zimmerman and division staff present a clinicopathologic conference to residents in ophthalmology at NNMC, WRAMC, and local civilian programs every Thursday afternoon (except July-August).

Trainees

Division facilities and personnel are in great demand for training in various phases of ophthalmic pathology and research. During 2003, approximately 18 physicians began or completed training on a full-time basis for 3 to 18 months. We had one full-time fellow in training for a year, and 12 residents from local hospitals were assigned for 3 to 4 months. In addition, 4 medical students spent their elective months in the division.

Presentations

1. March 2003: Verhoeff Society Meeting, "The effect of radiotherapy and cryotherapy on retinoblastoma," AA Hidayat.
2. April 2003: Washington, DC, Washington Hospital Center, "Medullary cell carcinoma metastatic to the orbit," AA Hidayat.
3. November 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "LASIK," AA Hidayat.
4. November 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Some interesting cases," IW McLean.
5. November 2003: California, American Society of Ophthalmic Plastic and Reconstructive Surgery, "Medullary cell carcinoma metastatic to the orbit," AA Hidayat.

RESEARCH

Publications

See the Cumulative List of Publication for titles of 2003 publications by division staff.

Projects

The staff continues to investigate hematogenous metastasis of uveal melanoma with the aid of computer-generated mathematical models and genetic analysis. The new tool of comparative genomic hybridization is being developed to investigate the genetics of metastasis in uveal melanoma. We continue the study of prognostic factors for ophthalmic malignancies, immunohistochemistry of ophthalmic tumors, and inflammatory diseases of the eye. Our goal is to generate pilot data in order to obtain outside grant support for our research activities.

PROFESSIONAL ACTIVITIES

Manuscripts Reviewed

Division staff reviewed 36 manuscripts for scientific journals in 2003.

Editorial Boards

1. *Saudi Ophthalmology Journal*, AA Hidayat.
2. *Investigative Ophthalmology and Visual Science*, IW McLean, Guest Member.

Case of the month, "Nodular fasciitis," AA Hidayat.

ADVANCED PATHOLOGY

GROUP 2

Dermatopathology

Orthopedic Pathology

Soft Tissue Pathology

Oral and Maxillofacial Pathology

Endocrine and Otorhinolaryngic/Head-Neck Pathology

George P. Lupton, MD
Chair
Date of Appointment — 1 July 1988

DEPARTMENT OF DERMATOPATHOLOGY

STAFF

Medical

George P. Lupton, MD, Chair
Maria-Magdalena Tomaszewski, MD, Assistant Chair
Luke S. Chung, MD
Walter L. Rush, MD
Sylvana M. Tuur-Saunders, MD
James R. Hallman, MD

Administrative

Clara Desane
Vishti A. Jefferson

IMPACT

In 2003, the department received full reaccreditation for its Dermatopathology Fellowship Training Program by the Accreditation Council for Graduate Medical Education. This program, the only one of its kind in the Department of Defense, provides training for military physicians leading to board certification in dermatopathology for the military services. Civilian physicians are also trained if military requirements are met. In addition, the department provides extensive training to numerous rotating military and civilian residents throughout the year.

In May 2003, the department offered its much-anticipated course, the Dermatopathology Workshop, and as in previous years it was filled to capacity and an outstanding success.

Our department has the highest volume of consultation cases of any department in the Institute. George P. Lupton, MD, department chair, was the first recipient of the Elson B. Helwig Chair in Dermatopathology. This award, in honor of one of the true giants in pathology and of the AFIP, represents the first endowed chair in the Institute's history.

CONSULTATION

The department provides consultation services in the field of dermatopathology for military, federal, and civilian institutions. Many of the accessioned federal and civilian consultations in 2003 were difficult cases, such as melanocytic lesions, that could present high-risk medicolegal problems. Military and federal institutions submitted 6,055 cases, about 72% of cases submitted in 2003. We changed the diagnosis in 247 cases (approximately 3%), greatly changing treatment outcome and leading to a potential saving of millions of dollars in medical malpractice suits. We received 4,043 cases (over 48% of the total), without contributor diagnosis.

Cases	*Completed*
Military	3,592
Army (1,356)	
Navy (768)	
Air Force (1,468)	
Federal	2,463
VA (2,353)	
USPHS (18)	
OFA (62)	
FMIL (30)	
Civilian	2,322
Interdepartmental	605
Total	8,982

EDUCATION

Department staff presented teaching and diagnostic slide conferences 4 times weekly for staff pathologists, dermatopathology fellows, residents, and visiting physicians. We also participated in teaching activities at the AFIP, such as professional staff conferences and the Quarterly AFIP/VA and Military Histopathology Quality Assessment Program.

Courses

Members of the department presented at 4 courses/meetings (2 Non-AFIP, 1 AFIP/nondepartmental, 1 AFIP/ARP departmental):

1. 13th Annual Anatomic Pathology Review Course (AFIP)
2. The Dermatopathology Workshop (AFIP/ARP)
3. American Academy of Dermatology Summer Meeting
4. American Society of Dermatopathology 40th Annual Meeting

Trainees

In 2003, the department provided training for 14 federal and 16 nonfederal physicians, fellows, and residents in dermatology, pathology, and dermatopathology. Trainees spent an average of 34 days in our department, for a total of 1,029 training-days.

Residents: A total of 1,029 training-days were provided to the trainees assigned to our department on a rotation basis (588 federal and 441 nonfederal). They came from teaching facilities including WRAMC, National Naval Medical Center, Washington Hospital Center, Howard University Medical Center, Georgetown University Medical Center, George Washington University Medical Center, NIH, and other military teaching hospitals and civilian institutions across the country. Two dermatopathology fellows (both military and both pathologists),17 dermatology residents (7 federal and 10 nonfederal), 9 pathology residents (5 federal and 4 nonfederal), 1 visiting nonfederal pathologists, and 1 nonfederal intern participated in our program.

Fellows: During the academic year 2002-2003, 1 Army pathologist and 1 civilian dermatologist (a Callender-Binford Fellow sponsored by ARP) were trained as dermatopathology fellows. Two other military pathologists (1 Air Force and 1 Navy) began their fellowship programs in July 2003.

Faculty Appointments

GP Lupton:

1. USUHS, Bethesda, Md.
2. George Washington University School of Medicine, Washington, DC.

Presentations

1. March 2003: Washington, DC, WRAMC, Dermatology Service, "Proliferations of fibrous and related tissues involving the skin," M-M Tomaszewski.
2. April 2003: Bethesda, Md, AFIP, 13th Anatomic Pathology Review and Update, Dermatopathology Session, "Problematic melanocytic lesions," GP Lupton.
3. April 2003: Bethesda, Md, AFIP Course, 13th Anatomic Pathology Review and Update, Dermatopathology Session, "Inflammatory dermatoses: a diagnostic approach," WL Rush.
4. April 2003: Washington, DC, WRAMC, Dermatology Service, "Cutaneous lymphoma," M-M Tomaszewski.

5. May 2003: Bethesda, Md, Dermatopathology Workshop AFIP/ARP Course, "Problematic melanocytic lesions," GP Lupton.
6. May 2003: Bethesda, Md, Dermatopathology Workshop AFIP/ARP Course, "The malignant Spitz's nevus revisited," GP Lupton.
7. May 2003: Bethesda, Md, Dermatopathology Workshop AFIP/ARP Course, "WHO classification and essential criteria for diagnosing primary cutaneous lymphomas," M-M Tomaszewski.
8. May 2003: Bethesda, Md, Dermatopathology Workshop AFIP/ARP Course, "The cutaneous pathology of bioterrorist agents," JR Hallman.
9. May 2003: Washington, DC, George Washington University School of Medicine, Department of Pathology, "Cutaneous lymphoma," M-M Tomaszewski.
10. July 2003: Chicago, Ill, American Academy of Dermatology Summer Meeting, Self Assessment Workshop in Dermatopathology, "Case presentations," GP Lupton.
11. October 2003: Washington, DC, WRAMC, Dermatology Service, "Panniculitis," M-M Tomaszewski.
12. October 2003: Chicago, Ill, 40th Annual Meeting, American Society of Dermatopathology, Consultations in Dermatopathology, "Malignant melanoma: yes or no?" (2 sessions) GP Lupton.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Collaborators

Interdepartmental

Department of Soft Tissue Pathology, Department of Genitourinary Pathology: Lymphedematous fibroepithelial polyps of the glans penis and prepuce: a clinicopathologic study of 7 cases demonstrating a strong association with chronic condom catheter use.

PROFESSIONAL ACTIVITIES

Editorial Boards

GP Lupton:

American Journal of Dermatopathology

Donald E. Sweet, MD
Chair
Date of Appointment — 5 December 1982

DEPARTMENT OF ORTHOPEDIC PATHOLOGY

STAFF

Medical

Donald E. Sweet, MD, Chair
Daniel Strum, COL, MC, USA, Staff Pathologist
Frank H. Gannon, MD, Staff Pathologist
Francis X. McGuigan, CDR, MC, USN, Orthopedic Surgeon
Arthur Ward, LCDR, MC, USN, Podiatrist
Scott Humble, MD, Orthopedic Pathology Fellow

Scientific

Arron Jurist, HPC1, USN

Administrative

(D) Jean C. Banks, Secretary

IMPACT

The department provides excellence in orthopedic pathology consultation, education, and research for the DoD, the VA, and other federal agencies, and for civilian pathologists, orthopedists, and related specialists at the national and international level.

Our fully operational Biomechanical and Musculoskeletal Research Laboratory is capable of evaluating the cause of military-related biomechanical injuries of active duty personnel. Training, equipment, and activity modifications necessary to eliminate and/or reduce such injuries, including the use of protective head and body armor, continues. Our priorities include 4 interdisciplinary (pathology, radiology, orthopedic surgery) 3-day workshops on bone neoplasia, metabolic bone disease, inflammatory bone disease, and arthritis, work on the fascicle on non-neoplastic bone and joint disease, and expanding the radiologic-pathologic correlative concept.

CONSULTATION

In 2003, the department rendered approximately 1,112 final, 116 consultative, and a lesser number of phone reports, and an almost equal number of interim and follow-up reports. Of these cases, approximately 42% resulted in no diagnostic change, 25% had minor diagnostic changes, and 2% had major diagnostic changes. Approximately 33+ gross specimens were studied and dissected, including metabolic bone cases, with the majority being specimen x-rayed. Approximately 60% of the cases represent tumor or tumor-like conditions. Our department is particularly interested in cases of metabolic bone disease, avascular necrosis, lipomas and related lesions of bone, cortical osteofibrous dysplasia and adamantinoma of long bone, and reactions to prosthetic implants.

Cases	*Completed*
Military	250
Army (103)	
Navy (79)	
Air Force (66)	
Foreign (2)	
Federal	107
VA (100)	
USPHS (1)	
OFA (6)	
Civilian	756
Interdepartmental	117
X-ray transfers	33
Total	1,263

Clinical Appointments

Consultant Orthopedic Surgeon, National Naval Hospital, National Naval Academy, Quantico, DeWitt Army Hospital, FX McGuigan.

EDUCATION

The department's annual commitment to education through courses, presentations, guest lectures, and trainee programs provided over 735 man-days of training during 2003, excluding exhibits and/or posters.

Courses

Department staff participated in or conducted 7 courses and tutorials in 2003, for a total of over 542 attendee-days and 112 CME hours.

Trainees

Department staff provided training in 2003 for 5 trainees, plus visitor study and board preparation for military, federal, and civilian medical students, pathologists, orthopedic surgeons, and fellows, for a total of 193 trainee-days.

Faculty Appointments

1. Clinical Professor of Pathology, Georgetown University Medical School, DE Sweet.
2. Clinical Professor of Pathology, USUHS, DE Sweet.
3. Associate Professor of Orthopedic Surgery, University of Pennsylvania, FH Gannon.
4. Assistant Professor of Pathology, USUHS, FH Gannon.
5. Associate Professor of Orthopedic Surgery, USUHS, FX McGuigan.

Visiting Professorship

Madigan Army Hospital, DE Sweet.

Presentations

1. January 2003: Washington, DC, AFIP, "Skeletal growth and development and mechanisms of disease," DE Sweet.
2. February 2003: Washington, DC, AFIP, "Skeletal growth and development and mechanisms of disease," DE Sweet.
3. March 2003: Tacoma, Wash, Madigan Army Hospital, "Development of bone and pathogenesis of bone tumors," DE Sweet.
4. March 2003: Tacoma, Wash, Madigan Army Hospital, "Cartilage lesions of bone," DE Sweet.
5. March 2003: Tacoma, Wash, Madigan Army Hospital, "Fibrous lesions of bone," DE Sweet.
6. March 2003: Tacoma, Wash, Madigan Army Hospital, "Giant cell lesions of bone," DE Sweet.
7. March 2003: Tacoma, Wash, Madigan Army Hospital, "Unknown lesions of bone," DE Sweet.
8. March 2003: Denver, Colo, Center for Spinal Disorders, "Bone tumors of the spine, part I," DE Sweet.
9. March 2003: Denver, Colo, Center for Spinal Disorders, "Bone tumors of the spine, part II," DE Sweet.

10. March 2003: Denver, Colo, Center for Spinal Disorders, "Unknown bone tumors," DE Sweet.
11. May 2003: Bethesda, Md, AFIP General Surgical Pathology Review Course, "Pathogenesis of solitary bone lesions," FH Gannon.
12. July 2003: Bethesda, Md, AFIP Diagnostic Surgical Pathology Review Course, "Pathogenesis of primary bone tumors and radiologic/pathologic correlation of solitary bone lesions," DE Sweet.
13. August 2003: Washington, DC, AFIP, "Skeletal growth and development and mechanisms of disease," DE Sweet.
14. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Growth and development," DE Sweet.
15. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Radiologic/pathologic correlation of solitary bone lesions," DE Sweet.
16. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Circulatory disorders of bone," DE Sweet.
17. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Fibrous and cystic lesions of bone," DE Sweet.
18. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Cartilage lesions of bone," DE Sweet.
19. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Arthritic disorders of bone," DE Sweet.
20. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Metabolic disorders of bone," FH Gannon.
21. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Infectious disorders of bone," DG Strum.
22. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Periarticular and soft tissue tumors," K Shekitka.
23. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Giant cell, round cell and vascular tumors of bone," DE Sweet.
24. September 2003: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Unknown case discussions and laboratory study sets," FH Gannon, DE Sweet.
25. November 2003: SanOrthopedic PathologyPuerto Rico, Dr. Enrique Koppisch Lecture, "Fibrous dysplasia progressiva," FH Gannon.
26. December 2003: Washington, DC, AFIP Staff Conference, "Arthritic disorders of bone," DE Sweet.
27. December 2003: Bethesda, Md, USUHS Small Group Lecture, "Orthopedic pathology," FH Gannon.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

Our department maintained 6 ongoing research projects in 2003:

1. Conventional and ossifying lipoma of bone.
2. Immunohistochemistry of adamantinoma and COFD.
3. The structure of articular cartilage.
4. Neuropathic joint disease.
5. Immunohistochemistry/clear cell chondrosarcoma.
6. Body armor, head protection, and training injuries.

PROFESSIONAL ACTIVITIES

Manuscripts Reviewed

Department staff reviewed articles for the following professional journals in 2003:

1. *Cancer*
2. *Clinical Orthopedics and Related Research*
3. *Diagnostic Surgical Pathology*

Markku Miettinen, MD, PhD
Chair
Date of Appointment — 1 July 1996

DEPARTMENT OF SOFT TISSUE PATHOLOGY

STAFF

Medical

Markku Miettinen, MD, PhD, Chair
John F. Fetsch, MD, Assistant Chair
Julie C. Fanburg-Smith, MD, Director of Education
Thomas Dougherty, COL, MC, USAF
Mohammad A. Nadjem, COL, MC, USA
Sumitra L. Parekh, COL, MC, USA

Scientific

Jerzy P. Lasota, MD, PhD, Research Pathologist
(D) Mourad Majidi, PhD, Research Scientist
Virginia Achstetter, Senior Laboratory Technologist

Fellow

(D) Agnieszka Dansonka-Mieszkowska

Administrative

David Dinges, Administrator
Charmaine Howard, Secretary

IMPACT

In 2003, we analyzed AFIP's database of over 1,000 gastrointestinal stromal and smooth muscle tumors, the world's largest, and generated systematic data on the behavior of tumors with different biologic parameters, such as specific types of KIT mutations. These data are vitally important for the rational application of the new KIT tyrosine kinase inhibitor drugs. Also, we published the first report on KIT-expressing and KIT-mutation-positive GI stromal tumors in canines, specifically in military working dogs. We reported a new tumor entity, tenosynovial chondromatosis, involving hands and feet with a high recurrence rate.

Honors: First Raffaele Lattes Lecture, College of Physicians and Surgeons of Columbia University, New York, NY, October 1982, M Miettinen.

CONSULTATION

Consultations included cytology, needle biopsies, excisional biopsies, resection, and autopsy specimens of a wide variety of soft tissue lesions from a broad range of anatomical sites. These included tumors with a wide variety of histogenesis, inflammatory, degenerative, post-traumatic, and iatrogenic conditions. Also seen were specimens from a wide variety of locations as interdepartmental consultations from other AFIP departments. In departmental consultations, there was a minor change in diagnosis in 1,281 cases and a major change in 38 cases.

Cases	*Completed*
Military	516
Army (222)	
Air Force (130)	
Navy (164)	
Federal	395
VA (372)	
USPHS (5)	
OFA (18)	
Civilian	1,416
Interdepartmental	1,183
Total	3,510

Deployments

1. MA Nadjem participated as standby reserve for forensic casualty examinations.
2. SL Parekh and T Dougherty provided manning assistance for AFIP cytology program as staff pathologists.
3. SL Parekh participated in diagnostic anatomic pathology activities at WRAMC.

EDUCATION

Courses

1. Microscopy Workshop on Soft Tissue Tumors, Bethesda, Md, September 29 - October 2, 2003. 45 attendees. All staff members acted as faculty.
2. AFIP Annual Anatomic Pathology Course, April 2004, T Dougherty, JC Fanburg-Smith, SL Parekh.
3. Guest Lectureship, AFIP Course on Urologic Pathology, July 2003, JF Fetsch.
4. Short Course on Pseudosarcomatous Lesions, American Society of Clinical Pathologists, December 2003, JC Fanburg-Smith.
5. JC Fanburg-Smith delivered 4 lectures on specific types of soft tissue tumors for the WRAMC residency program.

Training

Seven federal employees and 6 nonfederal trainees attended the department for a total of 319 training days. The department participated in HPQA for DoD and VA facilities, with 1 submission to the quarterly case program (T Dougherty).

Faculty Appointments

M Miettinen:

1. Adjunct Professor of Pathology, Anatomy and Cell Biology, Jefferson Medical College of Thomas Jefferson University, Philadelphia, Penn.
2. Adjunct Professor of Pathology, University of Helsinki, Finland.

JC Fanburg-Smith:

1. Instructor in Pathology, Department of Pathology, USUHS, F. Edward Hebert School of Medicine.
2. Adjunct Associate Professor, Georgetown University Medical Center, Department of Pathology.

Presentations

1. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Alveolar soft part sarcoma of the tongue: a clinicopathologic study of 14 cases," JC Fanburg-Smith.
2. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Deep juvenile xanthogranuloma. A study of 30 intramuscular and 19 subcutaneous cases," JC Fanburg-Smith.
3. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Soft tissue tumors of the penis: a retrospective review of 114 cases," J Fetsch, IA Sesterhenn, et al.
4. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Most phosphaturic mesenchymal tumors are a single entity: an analysis of 31 cases," AL Folpe, JC Fanburg-Smith, et al.
5. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Synovial-type giant cell tumors (STGCT) of the vertebral column," MA Furlong, JF Fetsch, et al.

6. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Epithelioid sarcoma: new insights based on extended immunohistochemical profile," WB Laskin, M Miettinen.
7. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Genetic losses on chromosome 22q in GISTs," J Lasota, A Wozniak, J Kopzynski, et al.
8. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Gastrointestinal stromal tumors, intramural leiomyomas, and leiomyosarcomas in the duodenum: a clinicopathologic, immunohistochemical, and molecular genetic study of 167 cases," M Miettinen, J Kopczynski, HR Makhlouf, et al.
9. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Inflammatory myofibroblastic tumor in adults," BP Rubin, CM Coffin, JC Fanburg-Smith.
10. April 2003: Washington, DC, AFIP Weekly Staff Conference, "Soft tissue pathology case reports," JC Fanburg-Smith.
11. April 2003: Kielce, Poland, Polish Society of Surgery, "Advances in molecular pathology of gastrointestinal stromal tumors," J Lasota.
12. April 2003: Bethesda, Md, AFIP Anatomic Pathology Course, "Classification of soft tissue tumors," JC Fanburg-Smith.
13. April 2003: Bethesda, Md, AFIP Anatomic Pathology Course, "Skeletal muscle and smooth muscle tumors," T Dougherty.
14. April 2003: Bethesda, Md, AFIP Anatomic Pathology Course, "Miscellaneous tumor entities," SL Parekh.
15. May 2003: Bethesda, Md, USUHS, "Renal pathology," T Dougherty.
16. July 2003: Bethesda, Md, 37th Annual Urologic Pathology Course (AFIP), "Soft tissue tumors of the genitourinary tract," JF Fetsch.
17. September 2003: Helsinki, Finland, 3rd International Symposium on Gastrointestinal Stromal Tumors, "Pathology of gastrointestinal stromal tumors," M Miettinen.
18. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Pseudosarcomatous lesions," JC Fanburg-Smith.
19. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Small round cell tumors," JC Fanburg-Smith.
20. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Leiomyoma versus leiomyosarcoma," T Dougherty.
21. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Classification of soft tissue tumors – old and new ideas," M Miettinen.
22. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Update on gastrointestinal stromal tumors," M Miettinen.
23. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Synovial sarcoma and epithelioid sarcoma: review and update," JF Fetsch.
24. September 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Epithelioid vascular tumors," JF Fetsch.
25. October 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Molecular pathology of soft tissue tumors," J Lasota.
26. October 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Recently characterized soft tissue tumor entities," JF Fetsch.
27. October 2003: Bethesda, Md, Soft Tissue Tumors - A Microscopy Workshop, "Nerve sheath tumors: benign or malignant?" JC Fanburg-Smith.
28. October 2003: New York, NY, Memorial Sloan-Kettering Cancer Center, "Gastrointestinal stromal tumors – an update," M Miettinen.
29. October 2003: New York, NY, College of Physicians and Surgeons of Columbia University, Rafaele Lattes Lecture, "Gastrointestinal stromal tumors – from morphology to molecular pathology," M Miettinen.
30. November 2003: Osaka, Japan, Symposium on Gastrointestinal Stromal Tumors, "KIT-mutations in gastrointestinal stromal tumors," J Lasota.
31. November 2003: Osaka, Japan, Symposium on Gastrointestinal Stromal Tumors, "Pathology and differential diagnosis of gastrointestinal stromal tumors," M Miettinen.
32. November 2003: Osaka, Japan, Symposium on Gastrointestinal Stromal Tumors, "History and epidemiology of gastrointestinal stromal tumors," M Miettinen.
33. November 2003: Augusta, Ga, Medical College of Georgia Grand Rounds, "Gastrointestinal stromal tumors – from morphology to molecular pathology," M Miettinen.
34. December 2003: Washington, DC, AFIP Staff Meeting, "Platelet derived growth factor receptor A mutations in gastrointestinal stromal tumors," J Lasota.

35. December 2003: Washington, DC, AFIP Staff Meeting, "Differential diagnosis of gastrointestinal stromal tumors," M Miettinen.
36. December 2003: Krakow, Poland, Conference on Gastrointestinal Stromal Tumors, "Pathology of gastrointestinal stromal tumors," J Lasota.
37. December 2003: Gdansk, Poland, Medical Academy of Gdansk Grand Rounds, "Pathology of gastrointestinal stromal tumors," J Lasota.
38. December 2003: Bethesda, Md, USUHS, "Blood bank," T Dougherty.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Classification of unusual vascular tumors.
2. Comparative genomic hybridization and other genotypic and phenotypic characterization of muscle cell tumors.
3. Fibrosarcomatous transformation of dermatofibrosarcoma protuberans.
4. Ectopic hamartomatous thymoma.
5. Epithelial differentiation in synovial and epithelioid sarcoma and related tumors.
6. Molecular pathologic analysis of soft tissue tumors.
7. Triton tumors.
8. Malignant peripheral nerve sheath tumors arising in neurofibroma.
9. Pathology of fibromas.
10. Soft tissue cartilaginous neoplasms.

Collaborators

Civilian

1. Dr. Wa'El El-Rifai, University of Virginia, Charlottesville
2. Dr. Sonja Erikson-Steigen, University of Tromso, Norway
3. Dr. Andrew Folpe, Emory University, Atlanta, Ga
4. Dr. Mary Furlong, Georgetown University, Washington, DC
5. Dr. Zoran Gatalica, Creighton University, Omaha, Neb
6. Dr. Hajnalka Gyorffy, Semmelweiss University, Budapest, Hungary
7. Dr. William B. Laskin, Northeastern University, Chicaco, Ill
8. Dr. Janusz Limon, Medical Academy of Gdansk, Poland
9. Dr. Michal Michal, Faculty Hospital, Pilsen, Czech Republic
10. Dr. Fabrizio Remotti, College of Physicians and Surgeons, New York, NY
11. Dr. Janusz Rys, Oncology Hospital, Krakow, Poland
12. Dr. Maarit Sarlomo-Rikala, University of Helsinki, Finland
13. Dr. Regine Schneider-Stock, Otto von Guericke University, Magdeburg, Germany
14. Dr. Albert Roessner, Otto von Guericke University, Magdeburg, Germany
15. Dr. Brian Rubin, University of Washington, Seattle
16. Dr. Jerzy Stachura, Jagellonian University, Krakow, Poland
17. Dr. Sharon W. Weiss, Emory University, Atlanta, Ga

Interdepartmental

1. Dr. Greg Saturday, Department of Veterinary Pathology
2. Dr. Esther Childers, Department of Oral and Maxillofacial Pathology
3. Dr. Hernando Mena, Department of Neuropathology
4. Dr. Elizabeth Rushing, Department of Neuropathology
5. Dr. Gary Ellis, Department of Oral and Maxillofacial Pathology
6. Dr. Dennis Heffner, Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology
7. Dr. Timothy O'Leary, Department of Cellular Pathology
8. Dr. Leslie H. Sobin, Division of Gastrointestinal Pathology
9. Dr. Lester Thompson, Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology

PROFESSIONAL ACTIVITIES

Manuscripts Reviewed

Department members reviewed 58 manuscripts for professional journals in 2003.

Editorial Boards

M Miettinen:

1. *American Journal of Surgical Pathology*
2. *Applied Immunohistochemistry and Molecular Morphology*
3. *Annals of Diagnostic Pathology*
4. *Human Pathology*
5. *Virchows Archiv*

JC Fanburg-Smith:

1. *Annals of Diagnostic Pathology*

J Lasota:

1. *Human Pathology*
2. *World Health Organization Classification of Head and Neck Tumours*

Academic Peer Review

Four academic promotion reviews were performed for the University of Virginia and the University of Texas (M Miettinen), and Northwestern University (M Miettinen, JF Fetsch).

Administrative

1. Directorate of Center for Advanced Pathology, AFIP, SL Parekh.
2. Editor and author, Air Force performance evaluations, T Dougherty.
3. Air Force representative and subject matter expert, Joint Readiness Clinical Advisory Board for Pathology, June 2003, T Dougherty.
4. Team Leader, CAP accreditation inspection of Harbor Hospital Center, Md, SL Parekh.
5. Inspector, CAP accreditation inspection of Harbor Hospital Center, Md and St Mary's Hospital, Leonardtown, Md, T Dougherty.
6. Member, Institutional Review Board, JC Fanburg-Smith.
7. Chair, Scientific Laboratories Process Action Team, JF Fetsch.
8. Member, Registrars Forum, M Miettinen.

Esther Childers, COL, DC, USA
Chair
Date of Appointment — 27 August 2002

DEPARTMENT OF ORAL AND MAXILLOFACIAL PATHOLOGY

STAFF

Medical

Esther L. B. Childers, COL, DC, USA, Chair
Robert D. Foss, CAPT, DC, USN
Stephen B. Williams, COL, DC, USA
Kevin Torske, LCDR, DC, USN
Carla Penner, DDS, Callender-Binford Fellow
(A) Gretchen Folk, LT, DC, USN, Resident
(A) Andrew Henry, MAJ, DC, USA, Resident
(A) David Wells, Lt Col, USAF, DC, Resident

Administrative

Patricia Ashburn, Secretary

IMPACT

In 2003, members of our staff contributed to military readiness and the mission of the AFIP in a variety of ways:

- Deployments on Operation Iraqi Freedom forensic missions in support of the OAFME included a number of high-profile mass disasters. These forensic missions provide rapid, accurate identification of disaster victims, that result in the timely return of remains to next of kin.
- Departmental off-site forensic dental identification training laboratories were deployed to 12 military commands and provided 4,400 man-hours of readiness training for future mass casualty disasters. These laboratory exercises represent a major source of forensic dental identification training in the US Armed Forces.
- The AFIP Slide Seminar is the most popular continuing education course at the annual meeting of the American Academy of Oral and Maxillofacial Pathology and is always fully subscribed. In its 24th year, the seminar promotes the department and Registry of Oral and Maxillofacial Pathology as a world leader in the specialty of oral and maxillofacial pathology.
- Also at the Academy of Oral and Maxillofacial Pathology meeting, Dr. Foss chaired the fellowship examination, which represents a major career milestone for new oral and maxillofacial pathologists.
- The third year of the residency program in oral and maxillofacial pathology, National Naval Dental School, conducted at the AFIP, is structured to provide opportunities for research and slide and case review with the staff. Presentation of a research project by the residents at the annual meeting of the American Academy of Oral and Maxillofacial Pathology promotes our missions of education and research.
- The Consultant to the Surgeon General of the Navy for Oral and Maxillofacial Pathology is a member of our staff.

- In 2003, Joint Service Commendation Awards went to RD Foss, K Torske, and SB Williams . (2 awards).

CONSULTATION

Our department consults on the wide variety of pathologic processes of the oral mucosa, jaws, and major and minor salivary glands, such as odontogenic cysts and tumors, fibro-osseous lesions, salivary gland neoplasia, and metastatic disease. We perform consultative services for US Army, Navy, and Air Force medical treatment facilities, VA medical centers, and US Public Health Service medical treatment centers, as well as civilian treatment facilities in the United States and worldwide. In 2003, we received 1,504 outside cases and made a major change in diagnosis in 36 cases, a minor change in diagnosis in 660 cases, and no change in the contributor diagnosis in 687 cases.

Cases	***Completed***
Military	353
Army (157)	
Navy (115)	
Air Force (70)	
Fmil (11)	
Federal	229
VA (227)	
OFA (2)	
Civilian	792
Interdepartmental	195
Total	1,504

Deployments

Members of the department contribute to military readiness by being prepared to deploy within 4 hours of notification. In 2003, the department had 99 deployments to support the OAFME with rapid, accurate, and reliable dental identification. Using state-of-the-art digital technology, the identification process was completed within hours of the postmortem examination. This vital service facilitates the rapid return of remains to the family.

1. February 3-5, Barksdale AFB, La, Columbia SS mishap forensic mission, SB Williams.
2. February 6-7, Dover AFB, Del, Columbia SS mishap forensic mission, SB Williams.
3. May 1-15, August 19-28, Iraq, Operation Iraqi Freedom forensic mission, K Torske.
4. March 14, Dover AFB, Del, Ft Drum Blackhawk crash forensic mission, SB Williams, E Childers.
5. March – December, Dover AFB, Del, Operation Iraqi Freedom forensic missions:
   E Childers (20)
   RD Foss (26)
   K Torske (27)
   SB Williams (29)

EDUCATION

Courses

Department staff participated in 12 AFIP/ARP courses, including the department's 2 major course offerings, Forensic Identification Course and Surgical Oral and Maxillofacial Pathology Course, for a total of 11,000 man-hours of training. The staff participated in 13 non-AFIP courses, for 1,809 man-hours of education. Portable forensic dental identification workshop kits were deployed 12 times for 4,400 man-hours of training of military personnel.

Trainees

The department had 3 third-year residents in oral and maxillofacial pathology from January 1 to June 30, 2003. One resident remained as a staff member for an additional 5 months. One Callender-Binford Fellow was assigned to the department on a half-time basis from January 1 to June 30, 2003. The department had 4 visiting pathologists for 158 man-days of training.

Presentations

1. January 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists,"

E Childers.
2. January 2003: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
3. February 2003: Landstuhl, Germany, DENTAC, "Oral and maxillofacial pathology review," E Childers.
4. February 2003: Landstuhl, Germany, DENTAC, "Mock board examination," E Childers.
5. February 2003: Landstuhl, Germany, DENTAC, "Forensic dentistry," E Childers.
6. February 2003: Landstuhl, Germany, DENTAC, "Oral cancer," E Childers.
7. February 2003: Bethesda, Md, National Naval Dental School, "Soft tissue tumors," RD Foss.
8. February 2003: San Diego, Calif, Naval Dental Center Southwest, "Forensic dental identification," RD Foss.
9. February 2003: San Diego, Calif, Naval Dental Center Southwest, "Lymphoid neoplasia of the head and neck," RD Foss.
10. February 2003: Bethesda, Md, National Naval Dental School, "Bone pathology," K Torske.
11. February 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," K Torske.
12. February 2003: Bethesda, Md, National Naval Dental School, "Bone pathology lecture," K Torske.
13. February 2003: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
14. March 2003: Washington, DC, AFIP, "Staff pathology conference: squamous cell carcinoma variants," K Torske.
15. March 2003: Washington, DC, US/Candian Academy of Pathology, "Squamous cell carcinoma variants," K Torske.
16. March 2003: Bethesda, Md, NIH, "Salivary gland pathology," K Torske.
17. March 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," K Torske.
18. March 2003: Washington, DC, George Washington University, "Salivary gland pathology," K Torske.
19. April 2003: Crystal City, Va, WRAMC, "Fibro-osseous lesions of the jaws," SB Williams.
20. April 2003: Crystal City, Va, WRAMC, "Developing a differential diagnosis," E Childers.
21. April 2003: Crystal City, Va, WRAMC, "Pediatric oral pathology," E Childers.
22. April 2003: Gaithersburg, Md, George Washington University, "Forensic dentistry," E Childers.
23. April 2003: Washington, DC, AFIP, "Head and neck basic sciences course," K Torske.
24. April 2003: Washington, DC, AFIP, "Army oral pathology course," K Torske.
25. April 2003: Washington, DC, WRAMC, "Annual oral pathology course," K Torske.
26. April 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," K Torske.
27. May 2003: Washington, DC, WRAMC, "Army oral surgery course," K Torske.
28. May 2003: Banff, Alberta, "AFIP seminar," staff.
29. June 2003: Washington, DC, "Forensic overview," E Childers.
30. June 2003: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
31. June 2003: Washington, DC, George Washington University, "Odontogenic pathology," K Torske.
32. August 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," K Torske.
33. August 2003: Washington, DC, George Washington University, "Salivary gland pathology," K Torske.
34. September 2003: Bethesda, Md, NIH, "Salivary gland pathology," K Torske.
35. September 2003: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
36. October 2003: Bethesda, Md, AFIP, "Practical oral pathology," E Childers.
37. October 2003: Bethesda, Md, AFIP, "Oral cancer," E Childers.
38. October 2003: Bethesda, Md, AFIP, "Odontogenic tumors," RD Foss.
39. October 2003: Bethesda, Md, AFIP, "Odontogenic cysts," SB Williams.
40. October 2003: Bethesda, Md, AFIP, "Fibro-osseous lesions," RD Foss.

41. October 2003: Bethesda, Md, AFIP, "Ulcerative conditions differential diagnosis," RD Foss.
42. October 2003: Bethesda, Md, AFIP, "Soft tissue masses differential diagnosis," RD Foss.
43. October 2003: Bethesda, Md, "Benign white lesions," SB Williams.
44. October 2003: Bethesda, Md, AFIP, "Pigmented lesions," SB Williams.
45. October 2003: Bethesda, Md, AFIP, "Clinicopathologic conference," SB Williams.
46. October 2003: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
47. October 2003: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," K Torske.
48. November 2003: San Antonio, Tex, AMSUS Annual Meeting, "Forensic dental support of Operation Iraqi Freedom," RD Foss.
49. November 2003: San Juan, PR, Surgical Pathology Course, "Selected cases of odontogenic and salivary gland tumors," E Childers.
50. November 2003: Washington, DC, AFIP, "Distance learning presentations: salivary and odontogenic pathology," K Torske.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Sialoblastomas
2. Molecular diagnosis of malignant salivary gland tumors
3. Mesenchymal tumors of the head and neck
4. Atypical chondroid neoplasia of the jaws
5. Clear cell odontogenic tumors
6. Adenoid cystic carcinoma of the nasal region
7. Dermoid cysts of the maxillary sinus
8. Genotyping and immunohistochemical analysis of odontogenic tumors
9. Teleforensic dental identification demonstration project

Collaborators

Civilian

Jennifer Hunt, MD, genotyping of odontogenic tumors

Interdepartmental

Julie Fanburg-Smith, MD, soft tissue tumors of the head and neck

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2002, TriService Dental Educators Conference, San Antonio Tex, E Childers (DENCOM).
2. February 2002, Federal Services General Dentistry Board Review, Ramstein, Germany, E Childers (Landstuhl DENTAC).
3. May 2003, American Academy of Oral and Maxillofacial Pathology, Banff, Alberta, E Childers, RD Foss, SB Williams, C Penner (ARP).
4. May 2002, AEGD/1YR Ft Sill, Okla, Forensic Odontology, E Childers (Ft Sill DENTAC).
5. September 2003, Surgeon General's Specialty Leader Conference, Landsdowne, Va, RD Foss (BUMED).
6. November 2003, Association of Military Surgeons of the United States, San Antonio, Tex, RD Foss (BUMED).

Dennis K. Heffner, MD
Chair
Date of Appointment — 1 September 1984

DEPARTMENT OF ENDOCRINE AND OTORHINOLARYNGIC/HEAD-NECK PATHOLOGY

STAFF

Medical

Dennis K. Heffner, MD, Chair
Clara S. Heffess, MD, Chief, Division of Endocrine Pathology
Jacqueline A. Wieneke, MD, Chief, Division of Otorhinolaryngic/Head-Neck Pathology
(D) Lester D. R. Thompson, MD, Chief, Division of Otorhinolaryngic/Head-Neck Pathology

Administrative

Carlos Mena, Administrative Assistant

IMPACT

Approximately 30% of consultation cases resulted in a change of diagnosis from the contributors' impressions, and most changes had a significant and sometimes crucial effect on patient treatment decisions. The quality and impact of our diagnostic consultation are seen most clearly in those rare or difficult cases where our diagnostic experience could not have been matched anywhere in the world.

Honors

Jacqueline A. Wieneke, MD, received the annual John Hill Brinton Award for the most excellent research publication by an AFIP staff member.

CONSULTATION

The department consults on difficult or controversial histopathologic diagnostic cases received from US military medical commands or facilities, VA medical centers, US Public Health centers, and nongovernmental civilian hospitals in the United States and abroad. The vast majority of cases are active surgical pathology cases with patient treatment decisions awaiting the consultative diagnostic evaluation. Our staff deals with a broad spectrum of pathologic conditions, consisting of a multitude of disease entities affecting the upper respiratory tract, ear, and adjacent or related anatomic areas of the head and neck, and diseases of the pancreas, adrenal, thyroid, and parathyroid glands.

Cases	*Completed*
Military	449
Army (186)	
Navy (119)	
Air Force (144)	
Federal	368
VA (346)	
USPHS (4)	
OFA (18)	
Civilian	1,510
Interdepartmental	300
Total	2,627

EDUCATION

Courses

A 4-week Otolaryngic Basic Science Course was presented in March 2003, attended by 12 military and 9 civilian surgeons. Approximately one fourth of the course time was composed of pathology instruction provided by departmental staff, totaling 840 man-hours of instruction.

Trainees

The department had 2 research fellows for 6 months each. There were 8 additional short-term trainees. Total training days were 285 for nonfederal trainees and 136 for one military fellow.

Presentations

1. January 2003: Washington, DC, Grand Rounds, George Washington University School of Medicine, "Immunohistochemistry," LDR Thompson.
2. April 2003: Washington, DC, AFIP Annual Anatomic Pathology Short Course, "Selected topics in immunohistochemistry and otorhinolaryngic/endocrine pathology," LDR Thompson.
3. June 2003: Washington, DC, AFIP Staff Conference, "Not all is as clear as it seems," LDR Thompson.
4. July 2003: Indianapolis, Ind, Indiana University School of Medicine, 86th Annual Course in Anatomy and Histopathology of the Head, Neck and Temporal Bone, "Selected topics in head and neck pathology," LDR Thompson.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

PROFESSIONAL ACTIVITIES

Editorial Work

The staff reviewed numerous professional articles for suitability for publication in peer-reviewed professional journals.

ADVANCED PATHOLOGY

GROUP 3

HEMATOPATHOLOGY

VETERINARY PATHOLOGY

INFECTIOUS & PARASITIC DISEASES PATHOLOGY

ENVIRONMENTAL & TOXICOLOGIC PATHOLOGY

Susan L. Abbondanzo, MD
Chair
Date of Appointment — 1 May 1994

DEPARTMENT OF HEMATOPATHOLOGY

STAFF

Medical

Susan L. Abbondanzo, MD, Chair
Nadine S. Aguilera, MD, Assistant Chair
Carol Barekman, LTC, MC, USA, Staff Pathologist
(D) Stephen I. Fisher, Maj, USAF, MC, Staff Pathologist
(A) Julie Plumbley, Maj, USAF, MC, Staff Pathologist
(D) Hong Chen, MD, Callender-Binford Fellow
(A) Jeffery Vos, MAJ, MC, USA, Fellow

Scientific

Wei-Sing Chu, MD, Supervisor, Immunology Laboratory
Min Qi Wei, Technologist, Immunology Laboratory
Lynn Xi, Technologist, Immunology Laboratory

Administrative

Michele L. Kelly, Administrator
Tasha Portee, Secretary

IMPACT

We are the only ACGME-accredited hematopathology training program in the 3 branches of the military (Army, Navy, and Air Force). In 2003, we published one peer-reviewed paper and prepared 2 more for publication.

CONSULTATION

The department renders expert consultation on cases involving the pathology of the hematopoietic system. Cases are submitted by the DoD and VA, and by civilian hospitals worldwide. Staff members participate in various local and national educational and research endeavors involving topics related to hematopathology.

Cases	***Completed***
Military	271
Army (113)	
Navy (70)	
Air Force (88)	
Federal	762
VA (738)	
USPHS (3)	
OFA (3)	
FMIL (18)	
Civilian	580
Interdepartmental	801
Total	2,414

EDUCATION

Courses

April 2003, Rockville, Md, AFIP Anatomic Pathology Review Course, 5 lectures.

Trainees

The department had 1 Callender-Binford fellow (January 1, 2003 - June 31, 2003) and 1 military fellow (July 1, 2003 - December 31, 2003). We had 3 one-month visitors in the department, 2 of whom were military. In 2003 we completed 304 training days, with responsibilities involving service work (under the constant supervision of a credentialed staff pathologist), research, and lecturing.

The department has been accredited by the Accreditation Council for Graduate Medical Education (ACGME) for a hematopathology fellowship program. Education for 2 hematopathology fellows-in-training has been approved. The program utilizes the clinical laboratories and staff at WRAMC and the National Naval Medical Center in a combined institutional fellowship headed at the AFIP. It is the only accredited military graduate medical education program in hematopathology. Our program was inspected in November of 2001 by the ACGME. As of July 2003 our program will no longer support Callender-Binford fellows.

Faculty Appointments

1. Adjunct Clinical Assistant Professor, Georgetown University Medical Center, Department of Pathology, SL Abbondanzo.
2. Adjunct Associate Professor, USUHS, NS Aguilera.

Presentations

1. February 2003: Washington, DC, WRAMC, "Myeloproliferative disorders, myelodysplastic disorders, malignant lymphocytic disorders, acute leukemias," C Barekman.
2. February 2003: Washington, DC, National Capital Consortium Pathology Residents, "Spleen," NS Aguilera.
3. April 2003: Rockville, Md, AFIP Anatomic Pathology Review Course, "Small B-cell lymphomas," C Barekman.
4. April 2003: Rockville, Md, AFIP Anatomic Pathology Review Course, "T and NK-cell lymphoma," NS Aguilera.
5. April 2003: Rockville, Md, AFIP Anatomic Pathology Review Course, "Hodgkin lymphoma," C Barekman.
6. April 2003: Washington, DC, National Capital Consortium Pathology Residents, "Review for inservice examination," C Barekman.
7. October 2003: Chapel Hill, NC, University of North Carolina Grand Rounds, "Update on Hodgkin lymphoma," C Barekman.
8. October 2003: Washington, DC, National Capital Consortium Pathology Residents, "Hodgkin lymphoma and myelodysplastic disorders," C Barekman.
9. October 2003: Philadelphia, Penn, Pennsylvania Hospital Residents Conference, "Hodgkin lymphoma and unknowns," C Barekman.
10. November 2003: Maryville, Tenn, Staff Conference, "Flow cytometry of small B-cell lymphomas," C Barekman.
11. November 2003: Washington, DC, AFIP Professional Staff Conference, "Kikuchi-Fujimoto lymphadenopathy," C Barekman.
12. December 2003: Philadelphia, Penn, Pennsylvania Hospital Residents Conference, "Small B-cell lymphoma and unknowns," C Barekman.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

The department had 12 active research protocols as of December 31, 2003, and several ongoing research projects, including the following:

1. Ultrasound technology in tissue fixation.
2. Atypical follicular hyperplasia in children.
3. Splenic non-lymphomatous neoplasms.
4. Lymphoplasmacytoid lymphoma/immunocytoma.
5. Determination of proto-oncogene overexpression in lymphoma.

6. Ultrasound fixation and its effect on molecular genetic studies.
7. Eosinophilic lymphadenitis.
8. Immunohistochemistry multiwell staining system.
9. Diffuse large B-cell lymphoma, 2 unusual subtypes.

Collaborators

Military/Federal

1. Elaine S. Jaffe, MD, NIH, Histiocytic neoplasms.
2. Frederick W. Miller, MD, PhD, FDA, Immunophenotypic analysis of silicone breast implants.

With the accreditation of our fellowship program, we have added a collaborative education mission with NNMC and WRAMC, as well as an education mission with the National Capital Consortium Pathology Residency.

Civilian

1. Steven H. Swerdlow, MD, University of Pittsburgh, Immunocytoma, interfollicular small lymphocytic lymphoma and lymphoplasmacytoid lymphoma/immunocytoma.
2. Frank Bauer, MD, St. Francis Hospital, Hartford, Conn, Cutaneous follicle center lymphoma.
3. Lynn Levin, MD, WRAIR, Viral etiology of Hodgkin lymphoma.

International

J. Geradts, MD, Oxford University, UK, Tumor suppressor genes in malignancy.

Interdepartmental

1. T O'Leary, Department of Cellular Pathology, Transformation of low-grade lymphoma.
2. J Lichy, Department of Cellular Pathology, Semi-quantitative method for detecting tumor markers.
3. L Thompson, Department of Otorhinolaryngic Pathology.
4. A Nelson, Department of Infectious and Parasitic Diseases Pathology.

Research Funds Received

1. NIH/NCI Grant for "Ultrasound-mediated tissue preservation," W-S Chu (May 1, 2002-April 30, 2004), $266,610.
2. AFIP/ARP Cooperative Enterprise Fund, "AFIP immunopathology laboratory proposal for cost reduction and improving efficiency," $200,000.

PROFESSIONAL ACTIVITIES

Official Trips

1. March 2003, US/Canadian Academy of Pathology, Washington, DC, SL Abbondanzo, NS Aguilera, W-S Chu.
2. October 2003, Society for Hematopathology, Pediatric Hematopathology Workshop, Memphis, Tenn, SL Abbondanzo, NS Aguilera.

Manuscripts Reviewed

SL Abbondanzo:

1. *Mayo Clinic Proceedings*
2. *Cancer*
3. *Archives of Pathology and Laboratory Medicine*
4. *American Journal of Clinical Pathology*

Dale G. Dunn, COL, VC, USA
Chair
Date of Appointment — 1 September 2003

DEPARTMENT OF VETERINARY PATHOLOGY

STAFF

Medical

(A) Dale G. Dunn, COL, VC, USA, Chair
(D) William Inskeep II, COL, VC, USA, Chair

Administrative

(A) Rhonda J. Martin, MSgt, USAF, NCOIC
Martha A. Koerner, Secretary
Teresa G. Cannady, Administrative Officer

DIVISION OF LABORATORY ANIMAL MEDICINE

James T. Sheets, MAJ, VC, USA
Chief
Date of Appointment — 15 August 2002

STAFF

Medical

(A) David E. Bentzel, MAJ, VC, USA, Deputy Chief

Scientific

Angela Y. King, SGT, USA, NCOIC
Manuel F. Taveras, SGT, USA, Animal Care Specialist
Omar A. Feliciano, SPC, Animal Care Specialist
Aaron J. Jackson, SPC, Animal Care Specialist
(D) Tia Coleman, SPC, USA, Animal Care Specialist
Rodolfo E. Marenco, QA Technician, ARP
Steven P. McNair, Surgery Technician
Greeley A. Stones, Caretaker Supervisor
Michael B. Cannon, Animal Caretaker
Rashaan O. Jackson, Animal Caretaker
Jerome D. Escoe, Animal Caretaker
James P. Pollock, Animal Caretaker

Mark G. Mense, LTC, VC, USA
Chief
Date of Appointment — 15 April 2002

DIVISION OF RESEARCH AND EDUCATION

STAFF

Medical

(A) Terrell W. Blanchard, LTC, VC, USA, Chief, Education Branch
Duane A. Belote, LTC, VC, USA, Chief, Research Branch
(D) Thelda J. Atkin, MAJ, VC, USA, Chief, Education Branch
Sophie Bouchiha-Olson, DVM, Education Research Pathologist
(D) Tabitha C. Viner, DVM, Callender-Binford Fellow

Scientific

Henry J. Jenkins, Electron Microscopist and Laboratory Technician

Residents

Bridget S. Lewis, MAJ, VC, USA (2nd year)
Gloria A. Marselas, MAJ, VC, USA (2nd year)
Thomas J. Steinbach, MAJ, VC, USA (2nd year)
Kimberly A. Whitten, MAJ, VC, USA (2nd year)
Derron A. Alves, CPT, VC, USA (2nd year)
Jennifer L. Chapman, CPT, VC, USA (2nd year)

Administrative

M. Sean Hahn, Administrator/Editor, Registry of Toxicologic Pathology for Animals, ARP

Dana P. Scott, LTC, VC, USA
Chief
Date of Appointment — 7 July 2003

DIVISION OF CONSULTATION AND TRAINING

STAFF

Medical

(D) Dale G. Dunn, COL, VC, USA, Chief
(A) Dana P. Scott, LTC, VC, USA, Chief
Sarah L. Hale, MAJ, VC, USA, Chief, Training Branch
Michelle L. Fleetwood, DVM, Chief, Consultation Branch
Thomas P. Lipscomb, DVM, Consultant Pathologist, ARP
F. Yvonne Schulman, DVM, Consultant Pathologist, ARP

Administrative

Monique E. Barnes, SGT, USA, Training NCO
Katherine M. Randall, Secretary

Residents

(D) Brad A. Blankenship, MAJ, VC, USA
(D) Mary F. Cooper, MAJ, VC, USA
(D) Joseph Novak Jr, MAJ, VC, USA
Jerry R. Cowart, MAJ, VC, USA (3rd year)
Greg A. Saturday, MAJ, VC, USA (3rd year)
Deidre E. Stoffregen, MAJ, VC, USA (3rd year)
Kathleen A. Szabo, MAJ, VC, USA (3rd year)
(A) Louis M. Huzella, MAJ, VC, USA (1st year)
(A) Mark A. Smith, MAJ, VC, USA (1st year)
(A) Shannon Wallace, MAJ, VC, USA (1st year)
(A) Shelley P. Honnold, CPT, VC, USA (1st year)

IMPACT

- The single most significant departmental program is the DoD Veterinary Pathology Residency. Currently, a record 14 officers are enrolled in this program. All Army veterinary pathologists now on active duty completed some or all of their postgraduate training here at AFIP. Army veterinary pathologists are directly involved in critical DoD biomedical research efforts to protect the soldier. Army veterinary pathologists are also trained in the detection and recognition of foreign animal diseases, many of which are potential biological weapons and of great importance to the nation's global war on terrorism. Army veterinary pathologists are the only comparative pathologists in the United States trained to conduct postmortem examinations in the biosafety level four (BSL-4) environment. In the face of a worldwide shortage of veterinary pathologists, the Veterinary Pathology Residency Program at the AFIP continues to be the most cost-effective and efficient source of trained pathologists for all DoD research, investigative, and diagnostic pathology needs.
- In collaboration with the DoD Military Working Dog Center and USUHS, the department completed retrospective studies of Persian Gulf War military working dog veterans. These studies revealed that canine veterans did not have increased incidences of neoplasia, peripheral nerve disease or death due to neurological conditions. These findings are of potentially great significance in terms of the future disease outcomes in human Persian Gulf War veterans.
- The department is collaborating with WRAIR, Division of Military Casualty Research in support of the DoD's wound detection sensor project. The goal of this project is to create a soldier-portable circuit to detect penetrating impacts. This study is the next in a series of steps in the development of a passive acoustic sensor to be worn by all combat soldiers that will provide immediate notification to the soldier medic of a penetrating ballistic wounding event. This research has the potential to increase battlefield casualty survival rates.
- The department provided laboratory animal medicine support onsite in Russia for the Department of State/DoD Cooperative Threat Reduction program.
- The operation of the laboratory animal facility at AFIP provided important animal model-based research on human diseases for both the AFIP and WRAMC, Department of Clinical Investigation.
- The department provided critical diagnostic pathology services for military working animal and other federal animal programs. Members also provided consultation services to the National Marine Fisheries Service and British Ministry of Defence on several issues, including sonar and marine mammal deaths.
- The department continued online veterinary systemic pathology training with the assistance of a US Department of Education grant. This resource contains case manuscripts with digital photomicrographs of more than 675 disease entities, including the high-consequence zoonotic and foreign animal diseases of importance in the global war on terrorism.
- The department conducted a 25-week histopathology slide conference with 135 participating institutions in 16 countries. This conference has an enormous impact on training programs and hundreds of veterinary pathologists and residents around the world. It has been the signature program of this department for 51 years.
- The WHO Collaborating Center continued to publish the first updates in 25 years of the *Histologic Classification of Tumors in Domestic Animals*. These fascicles are an important reference used worldwide in diagnostic and research pathology.
- Annual courses provided essential training for military medical research specialists and

are key core components of the DoD Residency Program. These courses are unique to the profession.

- The department conducted a toxicologic histopathology Web conference, the first Web-based course for the Institute and the first Web-based histopathology conference for the profession of veterinary pathology.
- The department published the *Standardized System of Nomenclature for Diagnostic Criteria*. These guides are critical to the standardization of diagnostic terminology for veterinary toxicologic pathologists.

CONSULTATION

The department provides essential diagnostic pathology services for the DoD military working dog program and other federal working animal programs, including the Navy Marine Mammal Program and those conducted by the Customs Service, Border Patrol and Secret Service. Veterinary pathology consultation is vital to maintaining the health and deployability of these important assets in the global war on terrorism. It is also important in maintaining disease surveillance measures in military communities. The importance of surveillance has substantially increased with the threat of bioterrorism. All of the known potential biological weapons, with the exception of smallpox, are zoonotic diseases. Members of the department also provided consultation and investigative services to the National Marine Fisheries Service and British Ministry of Defence on issues of military importance, including Navy sonar systems.

The department completed 2,074 consultation cases. Over 50% of cases reported represent complete autopsies in which wet tissue was received. The high percentage of military working dogs necropsied worldwide (approximately 99%) produces a steady demand for histopathological assessment of tissues (> 8500). The department also performed 116 cytological case examinations, which included tissue aspirates and bone marrow impressions. Twenty-six cases received a quality diagnosis code of 4, representing a major disagreement with the contributor's diagnosis. Special gross examinations were performed on 10 marine mammals. Department staff members and residents conducted 426 autopsies. Histopathology was performed on almost all autopsy cases. The National Zoological Park (NZP) and the Maryland State Diagnostic Laboratory (MDX) autopsy cases are not included with AFIP consultation case totals, since they are assessed by AFIP residents with NZP or MDX staff pathologists.

Cases	***Completed***
Military	967
No Final Report (NFR)	488
Federal	55
Civilian	564
Total	2,074

Autopsies Conducted

Division of Laboratory Animal Medicine, AFIP	27
National Zoological Park (NZP)	174
Maryland State Diagnostic Lab (MDX)	59
National Institutes of Health	156
Other (marine mammals/military working dogs)	10
Total	426

Deployments

1. January 2003, San Antonio, Tex, Army Veterinary Corps Consultants Meeting, W Inskeep.
2. February 2003, Charleston, SC, Working Group for Unusual Marine Mammal Mortality Events, DG Dunn.
3. March 2003, San Antonio, Tex, Veterinary Corps Junior Officer Development Course, W Inskeep.
4. March 2003, San Antonio, Tex, US Army Military Medical Seminar, W Inskeep.
5. March 2003, San Antonio, Tex, Council of Army Veterinarians, W Inskeep, DG Dunn.
6. July 2003, St. Petersburg, Russia, Consultation on laboratory animal issues for the Defense Threat Reduction Agency, JT Sheets.
7. July 2003, Seattle, Wash, Investigation of harbor porpoise strandings following sonar exercises by the USS Shoup, M Fleetwood.

8. September 2003, Falls Church, Va, Veterinary Corps Consultants Meeting, DG Dunn.
9. October 2003, Ieper, Belgium, 50th International Military Veterinary Medicine Conference, DG Dunn.
10. November 2003, Moscow, Russia, Consultation on laboratory animal issues for the Defense Threat Reduction Agency, JT Sheets.
11. November 2003, West Lafayette, Ind, Purdue University, recruiting for VC, SP Honnold.
12. November 2003, Ft Detrick, Md, Medical Management of Chemical and Biological Casualties Course, JT Sheets, DE Bentzel.
13. November 2003, Edgewood, Md, Medical Management of Chemical and Biological Casualties Course, DE Bentzel, JT Sheets.

EDUCATION

Courses

The department sponsored 4 AFIP courses attended by staff members and DoD Veterinary Pathology Program residents:

1. AFIP/C.L. Davis Foundation Gross Morbid Anatomy of Domestic Animals Course
2. AFIP/C.L. Davis Foundation Descriptive Veterinary Pathology Course
3. Pathology of Laboratory Animals Course
4. 7th Current Laboratory Animal Seminar Series

Trainees

- 14 full-time DoD residents
- 1 laboratory animal medicine resident
- 6 visiting residents
- 6 visiting students
- 1 visiting physician
- 1 visiting veterinarian

Presentations

1. January 2003: San Antonio, Tex, Army Veterinary Corps Consultants Meeting, "Status of veterinary pathology specialty," W Inskeep.
2. March 2003: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, "Opportunities in veterinary pathology," W Inskeep.
3. March 2003: Bethesda, Md, Laboratory Animal Medicine Seminar Series, "Laboratory animal quality assurance," JT Sheets.
4. March 2003: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, "Importance of a necropsy and proper submission of pathology samples," W Inskeep.
5. March 2003: San Antonio, Tex, Council of Army Veterinarians Meeting, "Update on veterinary pathology in DoD," W Inskeep.
6. March 2003: Verona, Italy, Glaxo-SmithKline Laboratories, "Exotic animal diseases of international security interest," W Inskeep.
7. March 2003: West Point, Penn, Merck Research Laboratories, "Foreign animal disease: a threat to homeland security," W Inskeep.
8. June 2003: Washington, DC, 12th Annual Descriptive Veterinary Pathology Course, "Ultrastructural descriptive techniques," DP Scott.
9. June 2003: Washington, DC, 12th Annual Descriptive Veterinary Pathology Course, "Histologic case descriptions," MG Mense, DP Scott, ML Fleetwood, DA Belote, SL Hale, W Inskeep.
10. September 2003: Ft Detrick, Md, Laboratory Animal Medicine Seminar Series, "Rabbit models of disease and research applications," DE Bentzel.
11. September 2003: Washington, DC, Army Veterinary Corps Consultants Meeting, "Status of veterinary pathology specialty," DG Dunn.
12. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Ovarian sex cord-stromal tumor in a ferret," SL Hale.
13. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Bacterial pulmonary abscesses and pneumonia in a greater Malayan chevrotain (*Tragulus napu*)," KA Whitten.
14. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Reactive angioendotheliomatosis," TJ Steinbach.
15. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Chronic

lymphocytic leukemia in a king cobra (*Ophiophagus hannah*)," GA Marselas.
16. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Epizootic hemorrhagic disease of deer," DA Alves.
17. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Glomerulocystic kidney disease in a Siamese cat," BS Lewis.
18. October 2003: Cobbleskill, NY, Northwestern Veterinary Pathology Conference, "Leptospirosis in a California sea lion (*Zalophus californianus*)," JL Chapman.
19. October 2003: Ieper, Belgium, 50th International Military Veterinary Medicine Conference, "Army veterinary pathology," DG Dunn.
20. October 2003: Seattle, Wash, 54th National AALAS Meeting, "Biocontainment – building or renovating a facility for ABSL3 or ABSL4 work: an overview of the resources available when undertaking a high-containment facility," JT Sheets.
21. November 2003: Banff, Alberta, American College of Veterinary Pathologists, "Neoplastic disease of military working dog Persian Gulf veterans compared to nondeployed controls," DA Belote.
22. November 2003: Banff, Alberta, American College of Veterinary Pathologists, "Web-based systemic pathology," MG Mense.
23. November 2003: Banff, Alberta, American College of Veterinary Pathologists, "Investigation of leukotriene inhibition on premature rat lungs exposed to hyperoxia," DE Stoffregen.
24. November 2003: Banff, Alberta, American College of Veterinary Pathologists, "Gastrointestinal stromal tumor in a chimpanzee (*Pan troglodytes*)," GA Saturday.
25. November 2003: Banff, Alberta, American College of Veterinary Pathologists, "Low-grade glial tumor with features of astroblastoma in a dog," JR Cowart.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Determination of surface acoustic signatures from high velocity impacts in swine.
2. Indicators of human disease from Persian Gulf War service: a study of military working dogs deployed in Operations Desert Shield/Storm.
3. Investigation of stranded harbor porpoises. Possible association with naval sonar exercise of USS Shoup in the Haro Strait.
4. Retrospective study of gas bubble disease and cetaceans, and any association with naval sonar.
5. Methods to protect against various infectious diseases at Biosafety Level 2 and 3.
6. Web-based distance learning in veterinary pathology.
7. Investigation of leukotriene inhibition on premature rat lungs exposed to hyperoxia.
8. Development of an International Tissue and Tumor Repository for chronic arseniasis.
9. Progressive bone lesions in the sperm whale and chronic effects of deep diving.
10. Adnexal carcinomas in dogs: histopathology, immunohistochemistry and biologic behavior.
11. Cerebral trematodiasis in California sea lions.
12. CNS lesions of domoic acid toxicosis in sea lions.
13. Testicular neoplasia in dolphins.
14. Toxoplasmosis in an elephant seal.
15. Toxoplasmosis in a bald eagle.
16. CNS tumors of domestic animals study set.
17. Causes of marine mammal disease.
18. Feline subependymal giant cell astrocytoma.
19. Orthopedic research.
20. Cardiovascular disease: arterial responses to injury, atherosclerosis, therapies for restenosis following stent placement.

Collaborators

Military

1. DoD Military Working Dog Veterinary Service.

2. WRAIR.
3. WRAMC.

Civilian

1. National Zoological Park, Washington, DC.
2. Maryland State Diagnostic Laboratory, Frederick, Md.
3. National Marine Fisheries Service.
4. US Fish and Wildlife Service.
5. US Food and Drug Administration.
6. NIH, Center for Environmental Health.
7. US Department of Agriculture, Agriculture Research Service.
8. University of Tennessee, Memphis, Department of Comparative Medicine.
9. Marine Mammal Center, Sausalito, Calif.
10. University of Texas School of Public Health.
11. Virginia Marine Science Museum.
12. C.L. Davis DVM Foundation.
13. Va-Md Regional College of Veterinary Medicine.
14. Society of Toxicologic Pathology.
15. USUHS.
16. The Ohio State University, Columbus, Ohio.
17. University of Pennsylvania, School of Veterinary Medicine, New Bolton, Penn.
18. New Jersey Marine Mammal Stranding Center, Brigantine, NJ.
19. Iowa State University.
20. Louisiana State University.
21. Washington State University.
22. University of Georgia.

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2003, Army Veterinary Corps Consultants Meeting, San Antonio, Tex, W Inskeep (DoDVSA).
2. February 2003, Working Group for Unusual Marine Mammal Mortality Events, Charleston, SC, DG Dunn (National Marine Fisheries Service).
3. March 2003, Veterinary Corps Junior Officer Development Course, San Antonio, Tex, W Inskeep (DoDVSA).
4. March 2003, Military Veterinary Medical Short Course, San Antonio, Tex, W Inskeep (MEDCOM) (DoDVSA).
5. March 2003, Military Veterinary Medical Seminar, San Antonio, Tex, JL Chapman (MEDCOM).
6. March 2003, Council of Army Veterinarians, San Antonio, Tex, DG Dunn (DoDVSA).
7. May 2003, American College of Veterinary Pathologists (ACVP) Examination Committee Meeting, Ft. Collins, Colo, DG Dunn (ACVP).
8. June 2003, Society of Toxicologic Pathology Meeting, Savannah, Ga, MG Mense (ARP).
9. July 2003, American College of Veterinary Preventive Medicine Certifying Examination, DE Bentzel (AFIP).
10. July 2003, Investigation of harbor porpoise strandings following sonar exercises by the USS Shoup, Seattle, Wash, M Fleetwood (AFIP).
11. September 2003, American College of Veterinary Pathologists Examination, Ames, Iowa, DG Dunn (ACVP).
12. September 2003, Veterinary Corps Consultants Meeting, Falls Church, Va, DG Dunn (DoDVSA).
13. September 2003, Foreign Animal Disease Diagnosticians Course, BS Lewis, TJ Steinbach (MEDCOM).
14. October 2003, 54th National AALAS Meeting, Seattle, Wash, JT Sheets, DE Bentzel (AFIP).
15. October 2003, Training workshop for onsite coordinators of marine mammal unusual mortality events, Shepherdstown, WV, ML Fleetwood (National Marine Fisheries Service).
16. October 2003, Northwestern Veterinary Pathology Conference, Cobbleskill, NY, JL Chapman, SL Hale, DA Alves, BS Lewis, GA Marselas, TJ Steinbach, KA Whitten, DP Scott

(ARP).

17. October 2003, International Military Veterinary Medicine Conference, Ieper, Belgium, DG Dunn (DoDVSA).
18. November 2003, American College of Veterinary Pathologists Annual Meeting, Banff, Alberta, DA Belote, JR Cowart, DE Stoffregen, KA Szabo, DG Dunn, MG Mense, GA Saturday, SL Hale, TP Lipscomb, FY Schulman (AFIP).
19. December 2003, Annual Project Directors Meeting, Denver, Colo, TW Blanchard (DOE).

Editorial Work

1. Associate Editor, Online Media, *Veterinary Pathology*, MG Mense.
2. Editor, *WHO International Histological Classification of Tumors of Domestic Animals*, FY Schulman.

Douglas J. Wear, MD
Chair
Date of Appointment — 27 June 1988

DEPARTMENT OF INFECTIOUS AND PARASITIC DISEASES PATHOLOGY

ORGANIZATION

The department is organized into 3 divisions and the Office of the Chair:

1. Division of Infectious and Tropical Diseases Pathology — Peter L. McEvoy, COL, MC, USA, Chief
2. Division of Microbiology — Robert M. Crawford, PhD, Chief
3. Division of Molecular Pathobiology — Shyh-Ching Lo, MD, PhD, Chief

STAFF — OFFICE OF THE CHAIR

Medical

Douglas J. Wear, MD, Distinguished Scientist, ARP

Administrative

Darlene Wilson, Office Manager

Peter L. McEvoy, COL, MC, USA
Chief
Date of Appointment — 14 April 1997/2001

DIVISION OF INFECTIOUS AND TROPICAL DISEASES PATHOLOGY

STAFF

Medical

Peter L. McEvoy, COL, MC, USA, Chief
Mary K. Klassen-Fischer, MD, Chief, Fungal Diseases Branch
Ronald C. Neafie, MS, Chief, Parasitology Branch
Ann M. Nelson, MD, Chief, AIDS Pathology and Emerging Infectious Diseases Branch
Wayne M. Meyers, MD, PhD, Chief, Mycobacteriology Branch

Fellow

Melanie Maleombho-Usher, MD, Callender-Binford Fellow

Administrative

(D)(A) Darlene Wilson, Secretary, 1 January-30 June 2003; Office Manager, 19 December 2003
(D) Cynthia G. Wilson, Secretary

IMPACT

With the start of Operation Iraqi Freedom, the division began receiving significant numbers of cases of cutaneous leishmaniasis for consultation and diagnosis. The increased workload has seriously delayed staff members' work on Volume II of *Pathology of Infectious Diseases*. The Middle East operations have also increased the number of cases of visceral leishmaniasis among military personnel and civilian contractors. In dealing with these cases, members of our division have performed outstanding work of military relevance, maintaining our reputation as the military's gold standard for the diagnosis of leishmaniasis.

Honors

Wayne M. Meyers was a unanimous selection by the Alumni Association of Juniata College, Huntingdon, Penn, for its William E. Swigart Humanitarian Award, presented in June 2003.

CONSULTATION

This division is one of only 2 pathology groups in the world dedicated exclusively to the pathology of infectious diseases. Glass slides and paraffin blocks of tissues thought to contain lesions caused by infectious disease agents are stained with a number of special stains to capture gram-positive or gram-negative bacteria, fungi, or mycobacteria; immunostains are used to detect viruses. Our many years of experience observing infectious agents' destructive footprints in tissue, and the resulting tissue reactions, help us judge whether a lesion is caused by an infectious agent, and to identify the most likely agent. Infectious diseases are a major cause of morbidity in the military and a significant possible cause of mortality, as judged by the Department of Homeland Security. Of the 741 cases tracked in 2003, 3 had a major change in diagnosis that led to a change in clinical care; 151 had a minor change in diagnosis.

Cases	*Completed*
Military	381
Army (311)	
Navy (31)	
Air Force (39)	
Federal	60
VA (49)	
USPHS (2)	
OFA (9)	
Civilian	375
Interdepartmental	887
Total	1,703

Clinical Appointments

1. Visiting Pathologist, WRAMC, PL McEvoy.
2. Visiting Pathologist, WRAMC, MK Klassen-Fischer.

Deployments

1. WRAMC, monthly sign-out of pathology cases, PL McEvoy.
2. WRAMC, monthly sign-out of pathology cases, MK Klassen-Fischer.
3. August 2003, Washington, DC, WRAMC, 12-day Reservist Active Duty Training, MK Klassen-Fischer.
4. October 2003, Philadelphia, Penn, Biosafety Committee, MK Klassen-Fischer.
5. December 2003, Baltimore, Md, Team Leader, CAP inspection of Harbor Hospital, MK Klassen-Fischer.

EDUCATION

Trainees

In 2003, the division hosted 2 trainees: 1 Callender-Binford Fellow and 1 visiting pathologist.

Faculty Appointments

Research Associate, Tulane Regional Primate Center, Tulane University, New Orleans, La, WM Meyers.

Presentations

1. February 2003: Washington, DC, George Washington University Pathology Residents, "Review of infectious disease pathology," PL McEvoy.
2. March 2003: Loma Linda, Calif, Loma Linda University School of Dentistry, "The dentist's role in the identification of the dead in 9/11," DJ Wear.
3. March 2003: Loma Linda, Calif, Loma Linda University Department of Pathology Alumni Seminars, "AFIP's pathologists' role in identification of dead in 9/11," DJ Wear.
4. March 2003: Washington, DC, USCAP Specialty Conference on Infectious Diseases, "Basidiobolomycosis," RC Neafie.
5. March 2003: Baltimore, Md, Tropical Medicine Dinner Club, Johns Hopkins University, "Clinicopathologic classification of Buruli ulcer disease," WM Meyers.
6. March 2003: Washington, DC, Binford-Dammin Society of Infectious Disease Pathologists, "Tribute to Jerry Smith, charter member of the Binford-Dammin Society of Infectious Disease Pathologists," WM Meyers.
7. April 2003: Washington, DC, WRAMC Department of Internal Medicine (Dermatology), Medical Grand Rounds, "Buruli ulcer," WM Meyers.
8. April 2003: Washington, DC, Georgetown University Medical Students, "Parasitology," PL McEvoy.
9. April 2003: Washington, DC, AFIP Anatomic Pathology Review Course, "Pathology of infectious diseases," PL McEvoy.
10. April 2003: Durham, NC, Durham VA Medical Center, Department of Pathology, "Slide seminar on the pathology of antiretroviral therapy," AM Nelson.
11. June 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "What else could it be?" RC Neafie.
12. June 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Granulomatous mastitis," MK Klassen-Fischer.
13. July 2003: Bethesda, Md, USUHS Military Tropical Medicine Course, "Loiasis and dracunculiasis," RC Neafie.
14. August 2003: Washington, DC, WRAMC Pathology Residents, "Pathology of fungal infections," MK Klassen-Fischer.
15. August 2003: Washington, DC, WRAMC Pathology Department, "Parasites in the blood," RC Neafie.
16. August 2003: Baltimore, Md, The Johns Hopkins School of Hygiene and Public Health Course, "AIDS pathology," AM Nelson.
17. September 2003: San Diego, Calif, Balboa Naval Medical Center, "Slide seminar on the pathology of antiretroviral therapy," AM Nelson.
18. September 2003: Los Angeles, Calif, West Los Angeles VA Medical Center, "Slide seminar on the pathology of antiretroviral therapy," AM Nelson.
19. November 2003: Washington, DC, Participant, WRAMC TV Special, Ground Rounds, RC Neafie.
20. November 2003: Washington, DC, Tropical Medicine Association of Washington, "Interesting and unusual parasitic pathology cases," RC Neafie.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Collaborators

Military

1. DoD Global Emerging Infections Surveillance and Response System (GEIS), reporting of infectious diseases in active duty military personnel.
2. US Army Center for Health Promotion and Preventive Medicine (CHPPM), a cooperative partnership among the AFIP, GEIS, and CHPPM.

Civilian

1. American Leprosy Mission.
2. Institute of Tropical Medicine, Antwerp, Belgium.
3. National Programs for the Control of Buruli Ulcer of Benin, Ghana, Togo, Ivory Coast, and Democratic Republic of the Congo.
4. Global Buruli Ulcer Initiative, WHO, Geneva, Switzerland.

PROFESSIONAL ACTIVITIES

Official Trips

1. March 2003, Tropical Medicine Dinner Club, Johns Hopkins University, Baltimore, Md, WM Meyers (self-funded).
2. March 2003, 6th WHO Ad Hoc Advisory Group Meeting on Buruli Ulcer, Geneva, Switzerland, WM Meyers (WHO).
3. March 2003, US/Canadian Academy of Pathology, Washington, DC, WM Meyers, RC Neafie, MK Klassen-Fischer, AM Nelson.
4. March 2003, History of Pathology Companion Society, Washington, DC, AM Nelson.
5. March 2003, Binford-Dammin Society of Infectious Disease Pathologists, Washington, DC, WM Meyers, RC Neafie, MK Klassen-Fischer, AM Nelson.
6. May 2003, Board of Directors, American Leprosy Missions, Inc., Greenville, SC, WM Meyers (ALM).
7. May 2003, American Society for Microbiology, Washington, DC, WM Meyers (self-funded).
8. May 2003, ALM Centennial Campaign planning session, American Leprosy Missions Board of Reference, Washington, DC, WM Meyers.
9. June 2003, Annual scientific syposium of Chesapeake Area Biosafety Association, Frederick, Md, MK Klassen-Fischer.
10. June 2003, American Board of Pathology, Test Committee Meeting, Tampa, Fla, AM Nelson.
11. September 2003, Pathology CTG, SNOMED International, San Diego, Calif, AM Nelson.
12. September 2003, Users Group, SNOMED International, San Diego, Calif, AM Nelson.
13. October 2003, American Biological Safety Association meeting and training courses, Philadelphia, Penn, MK Klassen-Fischer.
14. November 2003, Board Meeting, Damien-Dutton Society for Leprosy Aid, Inc., Bellmore, NY, WM Meyers.
15. November 2003, 1) Lecture by Dr. Miatudila Malonga, World Bank, "An overview of medical work in Congo-Kinshasa." 2) Report by I.M.A. team in Kinshasa on SANRU III and PMURR projects in the Democratic Republic of the Congo. Interchurch Medical Assistance, Inc., Brethren Service Center, New Windsor, Md, WM Meyers.
16. November 2003, Federal Biodefense Research Conference, Washington, DC, DJ Wear.
17. November 2003, Crossing Boundaries: Medical Biodefense and Civilian/Military Medicine Conference, Washington, DC, DJ Wear.
18. December 2003, American Board of Pathology, Test Committee Meeting, Tampa, Fla, AM Nelson.

Editorial Work

1. Histopathology Editor, *Clinical Infectious Diseases*, AM Nelson.
2. Editorial Board, *Pathology, Research and Practice*, AM Nelson.
3. Section Editor, *Annals of Diagnostic Pathology*, AM Nelson.
4. Edited manuscripts for "Pathology of Infectious Diseases: Protozoal and Invasive Arthropod-Related Diseases," WM Meyers, RC Neafie, MK Klassen-Fischer, DJ Wear.
5. Reviewed photomicrographs for various articles in *Clinical Infectious Diseases,* MK Klassen-Fischer.

Manuscripts Reviewed

1. *MedGenMed* (2), MK Klassen-Fischer.
2. *International Journal of Leprosy*, WM Meyers.
3. *New England Journal of Medicine*, WM Meyers.

Other

1. Member, SNOMED Pathology Convergent Terminology Group, 2003-present, AM Nelson.
2. Moderator, Evening Specialty Session, US/Canadian Academy of Pathology, AM Nelson.

Robert M. Crawford, PhD
Chair
Date of Appointment — 1 October 2003

DIVISION OF MICROBIOLOGY

STAFF

Scientific

(D) Ted L. Hadfield, Lt Col, USAF, BSC (Ret), Distinguished Scientist
(D) Normita Bravo, Maj, USAF, BSC
(D) Michael Dempsey, Capt, USAF, BSC
(A) Lynn Cooper, PhD, CBSP Senior Scientist
Michael Dobson, CDR, MSC, USN
Robert M. Crawford, PhD, Program Manager, ARP
Meron Mathias, Molecular Biology Technician, ARP
Kenesah Ferebee, TSgt, USAF
Karen Hiza, Molecular Biology Technician, ARP
Mina Izadjoo, PhD, ARP
Binxue Zhang, MD, PhD, ARP
Kathryn Kalasinsky, PhD, Senior Scientist
David Cepeda, LT, MSC, USN
Joseph Thompson, Research Assistant/Animal Caretaker, ARP
Marie Ellen D'Nicuola, BS, Medical Technologist, ARP
Susan Ditty, BA, Research Microbiologist, ARP
Clarence Gagni, Capt, USAF, BSC
(A) Richard Schoske, Maj, USAF, BSC
Adrian Ravizee, Research Assistant, ARP
Robert Burgess, Microbiologist, ARP
Wendell Thomas, Microbiologist, ARP
(D) Dana Kadavy, PhD, ARP
(D) Michelle Ekis, MT, ASCP
(D) Dongxiang Xia, MD, PhD, ARP
Vanessa Marcel, Molecular Biology Technician, ARP
Erica Penn, Microbiologist, ARP
Bryan Balignot, SGT, USA

Administrative

Levi Horton, ARP

IMPACT

The Division of Microbiology is engaged in many aspects of biodefense research in support of numerous government entities. Laboratory areas of expertise include bacteriology, virology, molecular genetics, rapid diagnostic test development, validation, sample analysis, and proficiency testing. Ours is the only military laboratory that is both a CAP-certified diagnostic lab and a level C facility for the CDC's Laboratory Response Network. As a level C laboratory, the division can diagnose and respond to potential purposeful releases of multiple threat agents such as anthrax, plague, and biological toxins such as ricin.

During 2003, the division responded to a number of events in the Washington, DC area, providing microbiological and molecular diagnostic support to multiple federal agencies. Current research efforts are focused on the development and validation of rapid, sensitive molecular assays to identify infectious agents in laboratory and field settings. Specific areas include the development of PCR assays employing fluorescent real-time technology for identification of biologic warfare agents from environmental and medical specimens, fingerprinting of bacterial agents using amplified fragment length polymorphism (AFLP), sequenc-

ing of bacterial and viral agents, and consultations on infectious diseases. The division is also participating in development of a Raman Chemical Imaging Biothreat Detection device. This work involves creating a database of all threat agents and their near neighbors, as well as all possible non-threat mixing agents or hoaxes and environmental materials. The device is being developed into a field-portable unit, and the first level of field testing has been accomplished.

The division is designated by certain customers as a Biological Standards and Reference Laboratory for biological agents/derivatives, as well as currently fielded rapid diagnostic tests and instrument platforms. For other customers, the division acts as a central validation laboratory for PCR diagnostic tests, serves as the Critical Reagents Genomic Repository (CRGR) for joint DoD diagnostic efforts, and QA/QC laboratory for reagents provided to various Test and Evaluation Centers. As the CRGR, we maintain DoD microbial reference stocks and prepare and provide highly purified nucleic acids from this collection to other laboratories in support of ongoing DoD R&D efforts. Educational efforts are supported by staff seminar presentations and course lectures.

CONSULTATION

In 2003, the division:

- Received 249 cases.
- Identified 5 organisms for WRAMC.
- Actively participated in the CDC Laboratory Response Network.
- Participated in screening for biological threat agents on samples from government sites (total of 6,674 samples tested from October 2001 through 31 December 2003).
- Supported the US Air Force Biological Augmentation Teams by doing QA testing on PCR reagents manufactured for use on the RAPID thermal cycler. The division is also the hub for an Air Force PCR proficiency testing program to qualify the Biological Augmentation teams and to monitor their performance throughout the year.
- The Molecular Analysis team did fingerprint analysis on *Brucella*, *Francisella*, *Burkholderia, Yersinia,* and *Acinetobacter* isolates.

Cases	***Completed***
Military	5
Army (5)	
Federal	20
OFA (20)	
Civilian	224
Total	249

Deployments

Military/Federal missions:

1. January 30, 2003, Florida, Secret, TL Hadfield, RM Crawford.
2. February 25-26, 2003 Florida, Secret, TL Hadfield.
3. March 21-26, 2003, Reno, Nev, Conference, M Dempsey, C Gagni, TL Hadfield.
4. April 1-3, 2003, San Diego, Calif, Consult, TL Hadfield.
5. May 6-10, 2003, Florida, Secret, TL Hadfield.
6. June 20-25, 2003, Omaha, Neb, Consult, M Dempsey.
7. July 13-23, 2003, Moscow, Russia, Consult, TL Hadfield.
8. August 11-14, 2003, Boston, Mass, Conference, TL Hadfield, RM Crawford, N Bravo, D Cepeda, R Schoske.
9. September 2-5, 2003, Albuquerque, NM, Consult, TL Hadfield.

EDUCATION

Trainees

During 2003, the division hosted a graduate student from USUHS for a project on the molecular diagnosis of *Bartonella* ssp. Also in 2003, a doctoral student from the University of Nebraska Medical Center began a 3-year course of research within the division on the molecular epidemiology of *Francisella tularensis*.

Several scientists from the former Soviet Union participated in a week-long PCR training course in our laboratory as part of our continuing collaborations with the DoD Cooperative Threat Reduction Program.

Presentations

1. May 2003: Washington, DC, 103rd General Meeting of the American Society for Microbiology, "Real-time PCR detection of *Yersinia pestis* using the Ruggedized Advanced Pathogen Device (RAPID)," N Bravo, M Ekis, B Zhang, D Kadavy, J David, C Gagni, M Dempsey, R Burgess, W Thomas, M D'Nicuola, R Crawford, T Hadfield.
2. May 2003: Washington, DC, 103rd General Meeting of the American Society for Microbiology, "Development of a real-time reverse transcriptase PCR multiplex assay to screen for eastern, western and Venezuelan equine encephalitis," M Powers, B Zhang, D Xia, R Rassmussen, T Ritter, D deSilva, T Hadfield.
3. May 2003: Washington, DC, 103rd General Meeting of the American Society for Microbiology, "Development of a real-time reverse transcriptase PCR multiplex assay for the detection of eastern equine encephalitis," M Powers, B Zhang, D Xia, R Rassmussen, T Ritter, D deSilva, T Hadfield.
4. May 2003: Washington, DC, 103rd General Meeting of the American Society for Microbiology, "Bacterial screening multiplex PCR for *Brucella*, *Francisella* and *Yersinia*," B Zhang, D Kadavy, M Ekis, M Powers, T Ritter, D deSilva, R Rassmussen, T Hadfield.
5. October 2003: Ft. Lauderdale, Fla, Federation of Analytical Chemistry and Spectroscopy Societies Conference, "Raman chemical imaging for reagentless biothreat detection and identification," S Vanni, M Nelson, T Hadfield, K Kalasinsky, P Treado.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

1. Development of fluorescent-labeled probe hydrolysis assays for various threat agents such as *Yersinia pestis, Burkholderia, Brucella,* and *Variola*.
2. Development of fluorescent-labeled probe hydrolysis assays for RNA viruses.
3. Development of FRET assays for *Brucella*, *Yersinia*, *Francisella*, EEE, VEE, and WEE.
4. Fingerprinting of infectious agents *Brucella*, *Francisella,* and *Bacillus anthracis*.
5. Collaboration with team to develop a *Brucella* vaccine.
6. Population and maintenance of PCR database.
7. Multicenter testing of PCR assays.
8. Nanogen chip analysis for biologic threat agents.
9. DTRA-CRDF Russian-based vaccine project.
10. Validation of Laboratory Response Network reagents (CDC).
11. Quality assurance testing for Air Force PCR reagents.
12. Nucleic acid production and quality assurance for the DoD's Critical Reagents Program Genomic Repository.
13. Adenovirus genomic sequencing and bioinformatics efforts.
14. Raman spectroscopy techniques for detecting biological threat agents.
15. Multiple research projects with the Cooperative Threat Reduction Program and former Soviet Union laboratories.
16. Rapid Aerosol Agent Detection program and spectral sensing of biological agents.
17. Proteomic approaches to identification of proteins for new diagnostics.
18. Whole genome amplification of microbial agents.

Collaborators

Military

1. David Sickenberger, SBCCOM (ERDEC), Edgewood Proving Grounds
2. Michael Goode, SBCCOM (ERDEC), Edgewood Proving Grounds
3. David Hoover, COL, MC, USA, WRAIR
4. Luther Lindler, PhD, WRAIR
5. George Ludwig, PhD; David Norwood, PhD; John Ezzell, PhD; Sophie Ibrahim, PhD; USAMRIID
6. Dan Martin, PhD; Richard Warren; Dugway Proving Grounds
7. Daniel Atchley, PhD; Deb Neimeyer, PhD; Brooks AFB
8. Diane Calimlum, Wilford Hall Medical Center
9. Peter Emanuel, PhD, Program Executive Office for Chemical-Biological Defense
10. David Stenger, Navy Research Laboratory

11. Frank Connors, DTRA
12. Federal Bureau of Investigation
13. Joan Gebhardt, PhD, Navy Medical Research Center

Civilian

1. Kent Vorhees, PhD; Franco Basila, PhD; Angelo Madonna; Colorado School of Mines
2. Paul Jackson, PhD, Los Alamos National Labs
3. Paul Kiem, PhD, Northern Arizona University
4. Kurt Peterson; Deepika DeSilva; Randy Rassmussen; Todd Ritter; Idaho Technologies
5. Alan Samuels, Edgewood Proving Grounds
6. Steve Olsen, USDA, *Brucella* isolated from wildlife in Yellowstone Park
7. Bill Williams, University of Wyoming, Development of a vesicular stomatitis virus PCR assay.
8. Linda Canis, Brooks AFB, Development of a herpes simplex 1 and 2 virus assay for detection of HSV in cerebrospinal fluid.
9. ChemImage Corporation, Pittsburgh, Penn
10. BioTraces Corporation, Herndon, Va
11. Midwest Research Institute, Rockville, Md

International

Serpukhov Research Center for Toxicology and Hygienic Regulation of Biopreparations; Brucella Vaccine for Bison project with USDA, CRDF, DTRA, Texas A&M, and Turner Foundation.

PROFESSIONAL ACTIVITIES

Official Trips

1. October 2003, International Workshop on Leptospirosis, Barbados, TL Hadfield (MIPR).
2. March 18-19, ChemImage Corporation Training Course, Pittsburgh, Penn, KS Kalasinsky.
3. October 29-31, University of Rhode Island Forensic Science Seminar Series, Kingston, RI, KS Kalasinsky.

Manuscripts Reviewed

1. *Applied Spectroscopy* (3), KS Kalasinsky
2. *Spectrochimica Acta* (1), KS Kalasinsky

Editorial Boards

1. *Spectroscopy*, KS Kalasinsky
2. *Spectrochimica Acta Part A*, KS Kalasinsky

Shyh-Ching Lo, MD, PhD
Chief
Date of Appointment — 2 May 1991

DIVISION OF MOLECULAR PATHOBIOLOGY

STAFF

Medical

Shyh-Ching Lo, MD, PhD, Chief

Scientific

Shaw-Huey Feng, PhD, Immunologist/Scientist, ARP
Christine L.D. Haley, BS, Molecular Biology Technician, ARP
Bing-Jie Li, MD, Molecular Microbiologist, ARP
Tamara Newsome, MS, Research Microbiologist, ARP
José Rodriguez, Research Technician, ARP
Shien Tsai, PhD, Senior Research Scientist, ARP
Shimin Zhang, MD, PhD, Senior Research Scientist, ARP
Nianxiang Zou, PhD, Research Scientist, ARP

IMPACT

The division expanded its service to the military in 2003 through its efforts for the Department of Homeland Security. Both the military and Homeland Security urgently need reagents to rapidly detect and differentiate biowarfare agents, specific antibodies for therapeutic use, and vaccines against these agents. One major concern is *Burkholderia* species. We have developed a series of monoclonal antibodies that could differentiate between closely related *Burkholderia pseudomallei* and *Burkholderia mallei,* and from other nonpathogenic *Burkholderia* bacteria. We also addressed other critical biothreat agents. We have prepared from mouse ascitic fluids monoclonal antibodies that could specifically recognize *Bacillus anthracis*, *Yersinia pestis,* and *Francisella tularensi*s. We have demonstrated that phage-displayed combinatorial human single-chain antibody (scFv) libraries can be successfully used to screen against complex antigens like whole bacterial cells. This represents a new approach in the development of monoclonal antibodies, based on the conformation (shape and charge) of protein antigens. The division continues to study *M. fermentans,* an agent proposed to be the cause of "Gulf War illness" and/or chronic fatigue syndromes. Our serological and molecular diagnostic studies argue against that possibility, but we continue to search for the etiologic agent.

Our contributions to civilian medicine include the documentation that many commercial PCR polymerase reagents are contaminated by exogenous genetic materials that could easily produce misleading artifacts. We have expanded the study demonstrating that chronic infection with mycoplasma can lead to malignant transformation of mammalian cells, and that mycoplasmas can markedly enhance transcriptional function of steroid receptors and alter expression of many genes in mammalian cells. The division has also developed an effective serologic diagnosis for *Mycoplasma hominis*, a common sexually transmitted mycoplasma that is associated with urinary tract infection.

CONSULTATION

In addition to consultation support in electron microscopic and immunohistochemical diagnosis of unusual microbes for the Institute, division staff consult on possible mycoplasmal diseases for the Gulf War Health Center at WRAMC and the Army Medical Command. All consultations rendered by this division are reported with the Division of Infectious and Tropical Diseases Pathology.

EDUCATION

Presentations

1. May 2003: Washington, DC, American Society for Microbiology 103rd General Meeting, "Chloramphenicol acetyltransferase activity in Mycoplasma penetrans," S Zhang.
2. May 2003: Washington, DC, American Society for Microbiology 103rd General Meeting, "A random priming PCR strategy to clone trace amounts of DNA with unknown sequences," N Zou, SE Ditty, BJ Li, S-C Lo.
3. May 2003: Washington, DC, American Society for Microbiology 103rd General Meeting, "Presence of bacteriophage-like DNA in taq DNA polymerase enzymes," T Newsome, BJ Li, N Zou, S-C Lo.
4. December 2003: Shanghai, China, Institute of Immunology, Second Medical University, "cDNA array analysis of global gene expression profiles in C3H cells during mycoplasma-induced malignant transformation," S Zhang.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

The division maintained 7 research projects in 2003:

1. Development of mouse hybridomas for production of monoclonal antibodies specific to *Burkholderia pseudomallei* and *Burkholderia mallei*.
2. Production of mouse ascitic fluid with monoclonal antibodies specifically against various biological warfare agents.
3. Investigational studies of pathogenesis of a newly found human mycoplasma in mice.
4. Effect of mycoplasmas on steroid receptor functions.
5. GM-CSF signal pathway in IL-3-dependent 32D cells following mycoplasma infection and mycoplasma-mediated transformation.
6. Identification of mycoplasma gene(s) involved in transforming mammalian cells.
7. Mycoplasmal *i*nfection and immortalization of human peripheral blood mononuclear cells.

Collaborators

Military

Naval Medical Research Institute, Silver Spring, Md.

Civilian

Clinical Center, National Institutes of Health, Bethesda, Md.

PROFESSIONAL ACTIVITIES

Editorial Board, *Methods in Cell Science*, S-C Lo.

Florabel G. Mullick, MD, ScD (Hon), FCAP, SES
Chair
Date of Appointment — 27 June 1996

DEPARTMENT OF ENVIRONMENTAL AND TOXICOLOGIC PATHOLOGY

ORGANIZATION

The department is organized into 5 divisions, a branch for the coordination of educational and research activities, a branch dedicated to consultation and research on mutagen and radiation cell-culture, and the Office of the Chair.

Division of Biochemical Pathology — William N. Fishbein, MD, PhD, Chief

Mutagen and Radiation Cell-Culture Branch — William N. Fishbein, MD, PhD, Chief

Division of Biophysical Toxicology — José A. Centeno, PhD, Chief

Division of Chemical Pathology — Frank B. Johnson, MD, Chief

Division of Environmental Pathology — Michael R. Lewin-Smith, MD, Chief

Division of Environmental Toxicology — Victor F. Kalasinsky, PhD, Chief

STAFF - OFFICE OF THE CHAIR

Medical

Florabel G. Mullick, MD, ScD (Hon), FCAP, SES, Chair
Elizabeth Meza, MD, Callender-Binford Fellow, ARP
(A) Linda A. Murakata, Lt Col, USAF, MC, Staff Pathologist

Scientific

José A. Centeno, PhD, Chief, Education and Research Programs Branch
Albin L. Moroz, MS, Computer Program Analyst

Administrative

Kim Knight, Administrative Officer, ARP
Ana Erica Revelo, Administrative Assistant, ARP
(D) Clarence Williams, MSG, MS, MSM, NCOIC

IMPACT

The department conducts consultation, education, and research in environmental, drug-induced, and radiation pathology, and in the development, implementation, and application of toxicological techniques (biochemical, physical, and chemical) to analyze tissues and to determine causes of injury to human and other animal tissues.

In 2003, the department continued development of the International Data Center for Toxic Lesions (INTOX) in humans and animals, composed of the following databases:

- Tissue Reactions to Drugs
- Breast Explants and Bioimplantable Materials
- Environmental Toxins
- International Tissue and Tumor Repository on Chronic Arseniasis
- Kuwait/Persian Gulf
- Former Prisoners of War
- Radiation Database

- Agent Orange
- Medical Geology
- Depleted Uranium

The department subscribes to several proficiency test programs of the College of American Pathologists (CAP), American Industrial Hygiene Association, and the National Institute of Standards and Technology:

— Division of Biophysical Toxicology: 3 proficiency tests (CAP)
— Division of Biophysical Toxicology: 2 proficiency tests on environmental lead (American Industrial Hygiene Association)
— Division of Environmental Toxicology: 2 proficiency tests (CAP)
— Division of Environmental Toxicology : 2 NIST Intercomparison Exercises

As part of the AFIP's Quality Assurance Program, the Division of Environmental Pathology reviewed 107 autopsy, surgical, and cytology cases in 2003 (MR Lewin-Smith, CS Specht, LA Murakata). In addition, the Division of Environmental Toxicology reviewed 74 cases involving urinary calculi as part of the Quality Assurance Program.

CONSULTATION

The department received a total of 2,293 new consultation cases in 2003, including 3,653 registry cases not requiring an AFIP report, and consulted on 210 intramural cases (no report required). See division reports for details.

EDUCATION

Courses

The department organized 5 short courses on "Medical Geology: Metals, Health and the Environment," in collaboration with ARP, US Geological Survey, UNESCO, International Union of Geological Sciences, and the International Union of Scientific Unions. These courses were attended by a total of 315 attendees for over 2,170 man-hours.

Presentations

Department personnel made 31 presentations at professional meetings and invited seminars. See division reports for complete lists of titles and dates.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department and division staff.

William N. Fishbein, MD, PhD
Chief
Date of Appointment — September 1965

DIVISION OF BIOCHEMICAL PATHOLOGY

IMPACT

The division provides consultation, education, and research in biochemical and molecular pathology and environmental toxicology, with particular emphasis on genetic influences and interactions. We are recognized internationally for our outstanding research in the fields of

experimental medicine and pathology, our knowledge and skill in educational presentations, and our unique consultative and diagnostic capabilities in the field of obscure genetic diseases.

STAFF

Medical

William N. Fishbein, MD, PhD, Chief

Scientific

Natalya Merezhinskaya, PhD, Research Biologist
Sunday Ogunwuyi, PhD, Research Microbiologist
Clarence Williams, MSG, MS, MSM, Cell Biologist

CONSULTATION

Consults involve differential diagnosis of suspected metabolic or inherited disease and require very elaborate investigation, involving prolonged cell culture, then UV irradiation, then further culture and quantification of cell number or other indicator of normal DNA repair and function. A positive result, indicating defective repair, often leads to further study of the gene and mutation involved by a collaborating laboratory proficient in that field. Our laboratory is the only one certified by CAP to perform such studies in the US.

Contributions to Military Readiness

Uncommonly used but unique consultative capabilities include:

1. Lactate/Ammonia Dynamometer Exercise Test – to evaluate muscle strength and fatigueability, and several potential contributory enzyme defects when performance is subnormal. Subjects: inductees with inadequate training performance, muscle pain, etc.
2. Muscle Carnitine Palmityl (and Acetyl) Transferase Assays – to rule out/in deficiency of this enzyme, a rare but important cause of poor performance or attacks of rhabdomyolysis. Subjects: as above.
3. Enzymatic tri-enzyme assays in frozen muscle biopsies of adenylate deaminase and kinase, and creatine kinase for the definitive diagnosis of myo-adenylate deaminase (mADD) deficiency. Subjects: suspected cases; deteriorating athletic performance, etc.
4. Enzymatic stain for mADD. This procedure, developed in our laboratory, is now performed in the AFIP muscle lab and around the world to screen for mADD. Subjects: routine screening for patients undergoing frozen muscle biopsy for diagnosis.
5. PCR assay of fresh or frozen blood for the major paired mutation in the AMPD1 gene. This permits the diagnosis of mADD or its carrier state without recourse to muscle biopsy. Subjects: as in 3 above.
6. Localization of the 3 major lactate transporters (MCT1,2,4) in frozen muscle biopsies. Still in the research phase, employing fluorescence microscopy, this procedure has now been adapted to light microscopy for wider use if it proves to be a worthwhile addition to the diagnosis/exclusion of minimal denervation or other early-stage muscle disease.
7. Chromosome 7 Inversion Frequency assay to assess genomic instability in environmentally exposed and/or genetically susceptible cohorts (or individuals). Subjects: Gulf War veterans, autoimmune disease, arsenic or heavy-metal exposure, etc.

Cases	*Completed*
Military (Army)	1
Civilian	23
Total	24

EDUCATION

Trainees

The division provides informal training to junior fellows, visiting scientists, student trainees, and staff members undertaking or analyzing experimental research involving molecular biology, spectrophotometry, high-performance liquid chromatography, enzyme stains and assays, electrophoresis, and ultracentrifugation.

Presentations

1. May 2003: Washington, DC, AFIP Staff Conference, "Why we get cancer: some cancer-prone diseases and their diagnosis and pathogenesis," WN Fishbein.

2. October 2003: Montreal, Quebec, Human Proteome Organization 2nd and International Union of Biochemistry and Molecular Biology 19th Joint World Congress, "Presence of 3 lactate transporters in human leukocytes," WN Fishbein.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

The division pursued 4 major research projects in 2003:

1. Mutations in the human monocarboxylate transporter.
2. Assessment of genomic instability via chromosome 7 inversions.
3. Presence and localization of the lactate transporter.
4. Presence and quantitation of lactate/pyruvate transporters in human tissues.

All of these projects have military relevance: 1, 3, and 4 may explain some cases of easy fatigue and failure to complete basic training, as has mADD in the past, while 2 has been used to study Gulf War Syndrome cases to assess the possibility of genomic instability arising from service in Kuwait.

Collaborators

Civilian

1. N Philip, Department of Pathology, Anatomy, and Cell Biology, Thomas Jefferson University, Philadelphia, Penn.
2. GD Vladutiu, Department of Pediatrics, Neurology, and Pathology, School of Medicine and Biomedical Sciences, SUNY at Buffalo, NY.
3. O Chiry, PJ Magistretti, L Pellerin, Institut de Physiologie, Lausanne, Switzerland.
4. K Kraemer, DNA Repair Section, Center for Cancer Research, NCI, NIH, Bethesda, Md.
5. S Muldoon, Department of Anesthesiology, USUHS, Bethesda, Md.

PROFESSIONAL ACTIVITIES

Official Trips

October 2003, HUPO 2nd Annual and IUBMB 19th Joint World Congress, Montreal, Quebec,WN Fishbein (ARP).

Manuscripts Reviewed

1. *Muscle and Nerve* (1)
2. *Journal of Neuromuscular Diseases* (2)

Editorial Boards

Associate Editor, *Journal of Biomedicine and Biotechnology*, WN Fishbein.

Professional Committees

Member, NASA Workshops I-VI for Mars Sample Return Handling Protocols and Review of Final Drafts 2000-2003, WN Fishbein.

José A. Centeno, PhD
Chief
Date of Appointment — October 2001

DIVISION OF BIOPHYSICAL TOXICOLOGY

STAFF

Scientific

José A. Centeno, PhD, Chief
(A) Todor Todorov, PhD, Research Chemist and Laboratory Manager
(A) Simina Lal, BS, MS, Environmental Chemistry Technician
(D) John W. Ejnik, LT, USN, PhD, Senior Staff Scientist (Biochemist)
(A,D) Monica Torres, BS, MPH, Environmental Chemistry Technician
(A,D) Zorimar Rivera, BS, MPH, Research Associate

IMPACT

The division conducts consultation, education, and research in environmental toxicology, health effects, and analysis of trace elements, toxic metals, and minerals. We develop chemical and biophysical techniques for the characterization of these materials in human and other animal tissues, with particular emphasis on elemental composition and chemical/toxicological speciation.

- The division maintains the Breast Explant Registry and conducts a research program on the archiving, consultation, and biophysical studies of silicone breast explants and bioimplantable materials database. This Registry has an extensive collection of published literature, CDs, and a list of patents for materials used in the manufacture of silicone breast implants and other biomedical devices.
- The division has developed and maintains the International Tissue and Tumor Repository for Chronic Arseniasis, with the partial support of 2 other federal agencies (EPA and NCI). This Repository serves as a centralized facility for collecting, archiving, and studying tissue specimens from populations chronically exposed to arsenic. In 2003, the repository consisted of 135 clinical cases submitted to the AFIP for consultation, 57 cases (with paraffin blocks and slides) from an arsenic-exposed population in Torreon, Mexico, 1,668 placental and clinical samples from Chile on which arsenic speciation analysis has been conducted, several tissue collections (with frozen and paraffin-block specimens) obtained from studies in which experimental laboratory animals have been used to study the toxicology of arsenic.
- The division has developed and maintains the only DoD Registry on Medical Geology, with partial support from national and international organizations including the US Geological Survey, UNESCO, and the International Union of Geological Sciences. This Registry is aimed at the study and characterization of geological (minerals, trace elements) and environmental factors and their distribution on the development of health problems in humans and other animals. Health problems associated with exposure to lead, mercury, fluoride, cadmium, arsenic, and other toxic metals are being studied. The division has also developed a teaching unit on medical geology which is based on a 3-day course titled "Metals, Health and the Environment."
- In collaboration with other DoD and federal agencies including USUHS, Naval Health Research Center in San Diego, EPA, and the US Geological Survey, division staff provide scientific humanitarian assistance to the government of The Philippines in studying potential health effects associated with exposure to mining waste in the island of Marinduque.

Contributions to Military Readiness

- In 2003 the division established the Depleted Uranium (DU) Registry, which consists of archival materials, a central analytical laboratory facility dedicated to the analysis of total and isotopic uranium ratio in biological tissues and fluids, and a biological surveillance program to monitor potential cases of DU exposure. The DU Registry was established in collaboration with the DU Program at the Baltimore VAMC, and provides archival and chemical analysis for all the services of the US Armed Forces. Our division works closely with the Directorate of Toxicology at the USCHPPM. Our laboratory provided the most sensitive technique available for the analysis of DU in body fluids and tissues from potentially exposed service personnel.
- In collaboration with the Naval Health Research Center in San Diego, Veterans Affairs, and the State University of New York, the division collaborated on the development of an occupational lung disease program, with particular focus on Navy personnel exposed to dust aboard ship. Quantitative (morphometric) measurements employing SEM-EDXA and light microscopy were made for over 15 cases with a diagnosis of sarcoidosis in collaboration with the Department of Pulmonary Pathology. This project was vital for the US Navy and provided valuable chemical and morphologic data that has been used to characterize the risk and incidence of sarcoidosis in Navy personnel. This project was completed in 2003 and the results are currently being submitted for publication.
- The division provided consultation and analytical toxicological support to the OAFME, Center for Health Promotion and Preventive Medicine, WRAMC, Navy Bureau of Medicine and Surgery, Brooke Army Medical Center, Navy Criminal Investigative Services, Naval Health Research Center, Depleted Uranium Program at the Baltimore VAMC, and Army Criminal Investigative Division in several cases concerning potential exposure to environmental agents and toxic trace elements, including mercury, arsenic, lithium, lead, and DU. These analyses were definitive in resolving cases of accidental, medical, and intentional poisoning.
- In close collaboration with NASA, division staff were actively involved in the analysis of tissue specimens and environmental samples obtained from the Columbia space shuttle disaster. The division conducted histological evaluations of tissue specimens, as well as a wide range of light microscopy and chemical analyses. This was instrumental in determining the causes of death and in characterizing the materials found in the tissue sections. A report was prepared describing the division's findings and submitted to NASA as part of their final report on the disaster.
- The division successfully established the Center for Analysis and Quality Assurance for the study of complementary medicine preparations of military relevance (MIL-CAM). Division staff secured grant funds totaling $88,600 for the development of this center. This grant will result in the development of techniques for the characterization of homeopathy solutions, dietary supplements, and medicinal preparations widely used by service
personnel.
- In collaboration with the CDC and many other federal and state government agencies, division staff continue to be involved in the development of strategic plans for the establishment of a Federal Laboratory Response to Chemical Terrorism, dealing with the potential use of chemical agents. This can be of vital importance and military relevance in responding to potential chemical, biological, and environmental disasters.

CONSULTATION

The division is charged with providing analytical toxicology support for the study of toxic metals and the identification and quantification of environmental and chemical agents in tissues and other biological specimens. In 2003 the division was involved in over 200 cases requiring DU analysis. In addition, division staff worked closely with the OAFME and the Navy Criminal Investigative Division in 3 suspected cases of arsenic poisoning and 1 case of lithium toxicity. In 2003, the division reported 5 cases in which foreign materials were identified employing confocal laser Raman microscopy, infrared microspectroscopy and scanning electron microscopy with energy dispersive x-ray microanalysis. Multielement quantitative analysis was provided on 5, and single element quantitative results were provided on 12 intradepartmental consults.

Cases	*Completed*
Military	17
Army (11)	
Navy (5)	
Air Force (1)	
Federal	176
VAH (175)	
OFA (1)	
Civilian	25
Interdepartmental	1
Total	219

Deployments

1. February 25-26, 2003, Naval Health Research Center, San Diego, Calif, Meeting of the Navy Lung Disease Assessment Project, JA Centeno.
2. March 20, 2003, FDA, Rockville, Md, Senior Science Council Meeting, JA Centeno.
3. August 22, 2003, OAFME, Division of Forensic Toxicology, Rockville, Md, Pre-CAP Intern Inspection, JA Centeno.
4. September 22-27, 2003, Marinduque, The Philippines, US Health Team to The Philippines to Assess the Environmental and Health Impact of Mining Waste, JA Centeno.

EDUCATION

Courses

In collaboration with the Education and Research Programs Branch, division staff organized 5 AFIP short courses and gave a total of 26 lectures. These activities had a total of 315 attendees for ~ 2,170 man-hours. The AFIP Short Course on Environmental Pathology titled "Medical Geology: Metals, Health and the Environment" was held in Lithuania, Scotland, Brazil, Australia, and Malaysia. Full financial support for these courses was obtained from national, international, and local organizations where the courses were held.

Trainees

In 2003, division staff provided training to a Nelson S. Irey Environmental Pathology Fellow (1 year) and a college student doing a 2-month internship in environmental and biophysical toxicology.

Faculty and Academic Appointments

JA Centeno:

1. Adjunct Professor of Environmental and Occupational Health, The George Washington University School of Public Health.
2. Adjunct Professor for Research, Universidad Metropolitana, San Juan, Puerto Rico.
3. Distinguished Visiting Professor, University of Turabo School of Sciences and Technology, Caguas, Puerto Rico.
4. William Evans Visiting Fellow, University of Otago and Wellington School of Medicine, Wellington, New Zealand.

Presentations

1. February 2003: Morgantown, WV, National Institute for Occupational Safety and Health, "Environmental toxicology of chronic arsenic exposure," JA Centeno.
2. March 2003: Rockville, Md, FDA, "Environmental medicine research areas at the AFIP," JA Centeno.
3. April 2003: Reston, Va, USGS, Natural Science and Public Health, "Medical geology: an emerging discipline in support of environmental and military medicine," JA Centeno.
4. April 2003: Puerto Rico, University of Turabo, NASA Science Conference, "Environmental health challenges for health and scientific professionals," JA Centeno.
5. May 2003: Washington, DC, National Organization for Women, Conference on the Safety and Effectiveness of Silicone, "Biophysical and environmental pathology studies of silicone in tissues," JA Centeno.
6. May 2003: Vilnius, Lithuania, Department of Pediatric Medicine, School of Medicine, "Mercury poisoning: aclinical and toxicological perspective," JA Centeno.
7. June 2003: Bethesda, Md, USUHS, "Medical geology and public health: chronic arsenic

poisoning – natural history, toxicity, and health effects," JA Centeno.
8. October 2003: Campinas, Brazil, University of Campinas School of Medicine, "Medical geology: an emerging discipline in support of public health,"JA Centeno.
9. November 2003: Newark, NJ, Eastern Analytical Symposium, "Confocal Raman microscopy and chemical imaging for the identification and characterziation of tissues," JA Centeno.
10. December 2003: Kuala Lumpur, Malaysia, Institute of Medical Research Malaysia, "Environmental health and trace elements: diseases due to deficiency and toxicity," JA Centeno.

RESEARCH

Publications

See the Cumulative List of Publications for titles of 2003 publications by division staff.

Projects

In 2003, JA Centeno was principal investigator in the following AFIP-approved research projects:

1. Histopathologic and laser Raman microprobe analysis of regional lymph nodes from patients with silicone breast implants.
2. Development of the International Tissue and Tumor Repository for Chronic Arseniasis.
3. Platinum concentration and speciation in silicone breast explants and corresponding connective tissues by inductively coupled plasma-mass spectrometry.
4. Sarcoidosis and occupational lung disease quality assurance program.
5. Dietary and occupational risk factors for prostate disease.
6. In vivo studies of the comparison of biokinetics between implanted tungsten and depleted uranium in rats: a pilot study.
7. Depleted uranium follow-up program.
8. Uranium-spiked control semen study statement of work.
9. Center for Advanced Analytical Toxicology Studies on Complementary Alternative Medicine Applications of Military Relevance (MIL-CAM).
10. The anatomic pathology of former prisoners of war.

In collaboration with the Department of Toxicology and the University of Maryland, Baltimore, the division is participating on a research program to study low levels of depleted uranium in tissues and body fluids from exposed service personnel.

Collaborators

Military/Federal

1. DI Bannon, US Army Center for Health Promotion and Preventive Medicine, Aberdeen, Md. Relative bioavailability of copper and lead in soil from military ranges using *Colinus virginianus*.
2. JS Little, COL, MS, Ronald Swatski, US Army Center for Health Promotion and Preventive Medicine, Aberdeen, Md. Uranium and isotopic uranium ratio analyses in human urine.
3. MA McDiarmid, K Squibb, University of Maryland, Baltimore and VA Baltimore Center. Follow-up and monitoring of Gulf War veterans with fragments of depleted uranium and other sources of depleted uranium exposure.
4. WB Jonas, USUHS and Samueli Institute for Information Biology. Effects of low and ultra-low doses of cadmium in RWPE-1 prostate cells.
5. WB Jonas, USUHS and Samueli Institute for Information Biology. Complex homeopathy drug development in neurodegenerative diseases.
6. J Medlin, G Plumlee, US Geological Survey. Environmental medicine of mining-related activities in the island of Marinduque, The Philippines.
7. RB Finkelman, US Geological Survey, C Groves, Western Kentucky University. Environmental health research in China: a consortium between AFIP, Western Kentucky University, US Geological Survey, and US EPA.
8. A Kolker, US Geological Survey, H Gibb, Science International. Feasibility of assessing health risks from long-term mercury exposure in Gorlovka, Ukraine.
9. WF Regnault, FDA, Rockville, Md. Mechanistic determination of stress-induced dystrophic calcification in cardiovascular materials and devices.
10. WF Regnault, FDA, Rockville, Md. Assessment of calcium phosphate deposition mechanisms in dental and orthopedic applications.

Civilian

1. C Hopenhayn, University of Kentucky, H Gibb, Science International. Chronic arsenic exposure from drinking water and reproductive effects.
2. H Brandon, Washington University, Center for Implant Retrieval and Analysis of Plastic and Reconstructive Surgery Devices.
3. A Mohamed, J Perkins, Jackson State University, Jackson, Miss. Center for Advanced Studies and Technological Applications of Bio-Complex Systems.

International

1. Dr. David Slaney, Marion Gray, University of Otago, Wellington School of Medicine, Wellington, New Zealand. Research collaboration on cadmium and prostate cancer.
2. Dr. Philip Weinstein, University of Western Australia, School of Public Health. Research collaboration on the health effects of toxic metals.
3. Dr. Olle Selinus, Geological Survey of Sweden. Research collaboration on medical geology.
4. Prof. Dr. Sergio Caroli, Institute Nationale di Sanita, Rome, Italy. Research collaboration on speciation of trace elements.
5. Prof. Dr. Chin-Hsiao Tseng, National Taiwan University Hospital, Taipei, Taiwan. Research collaboration on arsenic health effects.
6. Prof. Dr. Baoshan Zheng, Academia Sinica and Institute of Environmental Geochemistry, China. Research collaboration on medical geology and health effects of toxic trace elements.

Funds Received through Interagency and Defense Sharing Agreements

In 2003, non-AFIP research funds were received as part of interagency and defense sharing agreements developed through collaborative projects including:

1. IAG with the FDA Division of Mechanics and Material Sciences.
2. IAG with the NCI, US-EPA.
3. IAG funds from the Naval Health Research Center in support of an Occupational Health Study on Sarcoidosis.
4. VA/DoD Sharing Agreement to Support Depleted Uranium Follow-up, Surveillance and Archival Program.

PROFESSIONAL ACTIVITIES

Official Trips

1. February 2003, National Institute for Occupational Safety and Health, Morgantown, WV, JA Centeno (NIOSH).
2. February 2003, Sarcoidosis Assessment Program, Naval Health Research Center, San Diego, Calif, JA Centeno (NHRC).
3. April 2003, University of Turabo, Puerto Rico, NASA Science Conference, JA Centeno (UT and NASA).
4. May 2003, Vilnius, Lithuania, AFIP Short Course, JA Centeno (ARP, UNESCO, IUSC).
5. September 2003, Island of Marinduque, The Philippines, US-Philippines Study on Environmental and Human Health Study Assessment from Mining Waste, JA Centeno (The Philippines, US Geological Survey).
6. October 2003, Campinas, Brazil, AFIP Short Course, JA Centeno (ARP, UNESCO, IUCS).
7. November 2003, Eastern Analytical Symposium, Newark, NJ, JA Centeno (ARP).
8. December 2003, University of Canberra, Australia, AFIP Short Course, JA Centeno (ARP, UNESCO, IUSC).
9. December 2003, Institute of Medical Research, Kuala Lumpur, Malaysia, AFIP Short Course, JA Centeno (ARP, UNESCO, IUSC).

Manuscripts Reviewed

1. *Experimental Biology and Medicine* (1)
2. *Biological Trace Element Research* (1)
3. *International Journal of Environmental Research and Public Health* (1)
4. *Journal of Trace Elements in Medicine and Biology* (1)
5. *Food and Chemical Toxicology* (1)
6. *Clinical Chemistry* (1)

Editorial Boards

1. *Biological Trace Element Research*

2. *International Journal of Environmental Research and Public Health*
3. *Toxicologic Pathology* (2000-2003)

Research Proposals Reviewed

1. US Environmental Protection Agency, National Center for Environmental Assessment (1 proposal reviewed) – JA Centeno.
2. National Research Council Study Session (3 proposals reviewed) – JA Centeno.

PhD Theses Reviewed

1. Kadria Mahmoud Aly, Department of Zoology, Faculty of Science, Cairo University, Egypt, "The Effect of Some Types of Algae on the Snail Intermediate Hosts of Schistosomiasis in Egypt." JA Centeno (External Reviewer).
2. Sharon Moalem, Department of Physiology, Faculty of Medicine, University of Toronto, "The Involvement of Hereditary Hemochromatosis Mutations (C282Y and H63D) in Familial Alzheimer's Disease and Parkinson's Disease and Their Purported Origins Through Epidemic Pathogenic Selection." JA Centeno (External Examiner).

Awards

Superior Civilian Service Award (June 2002-July 2003), JA Centeno.

Frank B. Johnson, MD
Chief
Date of Appointment — 26 February 1990

DIVISION OF CHEMICAL PATHOLOGY

STAFF

Medical

Frank B. Johnson, MD

Scientific

H. Marie Jenkins, HT, ASCP, Histochemical Technologist

IMPACT

1. The division conducts analyses on more calculi than any other military laboratory.
2. Scanning electron microscopy with energy dispersive x-ray analyses of materials mixed with anthrax spores continues to generate interest from the news media.
3. Dr. Johnson facilitated the expeditious review of human-use research protocols involving the health of active-duty military personnel and their families.
4. Dr. Johnson served as chair of the Human Use Committee, WRAIR, and as leader of the Chemical Spill Team, AFIP.

CONSULTATION

The division conducts specialized procedures in support of military medicine. Military installations submitted 638 calculi for identification, and 84 calculi were received from VA Medical Centers.

Cases	***Completed***
Military	651
Army (435)	
Navy (1)	
Air Force (215)	
Federal (VA/PHS)	84
VA (84)	
Civilian	18
Interdepartmental	11
Total	764

EDUCATION

Presentations

1. March 2003: Orlando, Fla, 54th Pittsburgh Conference on Analytical Chemistry and Spec troscopy, "Application of vibrational microspectroscopy and scanning electron microscopy to the identification of foreign materials in pathology specimens," SC Cordero.
2. Dr. Johnson provided informal educational experience to members of the staff by discussing cases brought directly to him in consultation.

RESEARCH

Publications

See the Cumulative List of Publications for titles of 2003 publications by division staff.

Projects

1. Development and refinement of methods for identification and characterization of foreign materials in tissues.
2. Studies on the purity of reagents used in histology laboratories.

Michael R. Lewin-Smith, MD
Chief
Date of Appointment — 1 November 2001

DIVISION OF ENVIRONMENTAL PATHOLOGY

STAFF

Medical

Michael R. Lewin-Smith, MD, Chief
Charles S. Specht, MD, Staff Pathologist
(A) Linda A. Murakata, Lt Col, USAF, MC, Staff Pathologist

IMPACT

- The division conducts consultation, education, and research in environmental toxicology and environmental, drug-induced, and radiation pathology. We study ways to develop and apply toxicological techniques for analyzing human and animal tissue and integrate these techniques with pathological findings to determine the causes of injury and disease.
- The division maintains registries for Kuwait/Persian Gulf War veterans, Agent Orange/Vietnam War veterans, former POWs, and ionizing radiation veterans. The division provides pathology support for the other divisions of the Department of Environmental and Toxicologic Pathology and for the INTOX data center. The registry work of the division exclusively involves the pathology of active duty military personnel and veterans. The information gathered may be of value as an aspect of military post-deployment health surveillance, and in improving future force protection.
- In 2003 the division requested that AFIP cases received from Afghanistan and Iraq be flagged for future incorporation into registries for these 2 deployments. By December 31, 2003, 4 Afghanistan and 241 Iraq cases had been flagged.
- The division works closely with US military and other federal agencies to investigate pathologic findings associated with foreign materials, environmental exposures, and toxic reactions to drugs. The majority of consults received directly and worked up in collaboration with the other divisions of the department are for the identification, and occasionally quantification, of foreign materials in tissue specimens. These range from fragments of munitions to drug crystals. A large proportion of these cases are contributed by military and VA medical centers. Others are contributed by other federal agencies such as the FDA and NASA. Even the work performed on nonfederal cases is often of benefit in building the department's expertise, which can prove useful when applied to the identification of similar materials in military cases.
- The division reported 270 more cases than it received in 2002, leaving a backlog of only 23 cases. In collaboration with the other divisions of the department, we completed 35 interdepartmental consultations from 12 AFIP departments, including the OAFME. Division staff also cosigned several cases received by the divisions of Environmental Toxicology, Biophysical Toxicology, and Chemical Pathology. The division reported one VA claims case and consulted on a second case, both relating to Agent Orange.

CONSULTATION

1. The division maintains the Registry for Former Prisoners of War (POWs), which contains histopathologic specimens dating back to 1945. The Registry was established in 1980 in a VA circular. Since then, 26,692 accessions from 13,440 former POWs have been received at the AFIP. During 2003, 1,352 new POW Registry accessions were received and 1,327 accessions were finalized, including those with no report required. The division received 359 fewer POW accessions in 2003 than in 2002.

2. The Division maintains the Kuwait/Persian Gulf Registry for pathology specimens from Persian Gulf War veterans. This Registry is supported by funding from the DoD, and contains pathologic material contributed by military medical treatment facilities and VA medical centers. During 2003, 1,784 new Kuwait/Persian Gulf Registry accessions were received and 1,638 accessions were finalized, including 1,267 with no report required. The division received 48 fewer Kuwait/Persian Gulf accessions in 2003 than in 2002. The AFIP Kuwait/Persian Gulf Registry contained 10,873 accessioned cases from 7,624 verified Gulf War military veterans on December 31, 2003. In addition, there were 1,169 accessioned cases from 815 veterans who have been in the theater of operations, but not during the period August 1, 1990 to July 31, 1991, and 4,604 accessioned cases from 3,687 patients whose status could not be verified, but had been received as Kuwait/Persian Gulf Registry cases.
3. A special study conducted in the 1980s for Vietnam War veterans formed the basis for the AFIP Registry for Agent Orange, which is maintained by the division. Additional cases from Vietnam War military veterans have been received for inclusion in the Agent Orange Registry since then. In addition, autopsy contributions, received mainly from VA medical centers, are received as part of a research protocol for dioxin evaluation and are also included in the Registry. The toxicologic evaluation of these latter cases is performed by the Division of Environmental Toxicology. During 2003, 1,262 new Agent Orange Registry accessions were received and 1,240 accessions were finalized, including 836 with no report required. The division received 510 more Agent Orange accessions in 2003 than in 2002. There were 8,911 accessioned cases from 7,452 patients in the Agent Orange database on December 31, 2003.

For the registries listed above, the division received a total of 4,373 new accessions in 2003, representing an increase of 89 accessions over 2002.

4. The Radiation Biology Registry, formerly under the Mutagen Branch, was retained by the division, although no replacement for the previous radiation biology pathologist has been appointed. In 2003, one new case was added to the registry.
5. The department has developed the INTOX database, which contained several thousand cases, and was reorganized in 2001. The INTOX database was renamed the INTOX Data Center and now is an umbrella for several databases, which have been separated to more easily identify related cases. Division staff have been actively involved with the development of the new data center, and in redesigning the computerized records for the Tissue Reaction to Drugs (TRD) Registry. The registries for Agent Orange, Former Prisoners of War, Kuwait/Persian Gulf and Radiation Pathology are databases in the INTOX Data Center. Division staff have also worked on the material for the Breast Explant Registry, Depleted Uranium, and Chronic Arseniasis Registries. A new database for environmental agents has been created for agents previously included in the TRD registry but which are not recognized as conventional drugs, diagnostic or therapeutic agents or alternative therapies. The reorganization may take several years to complete, but will improve the utility of the data for future research and prove useful for collaborative work, particularly with military and other government agencies.

Cases	***Completed***
Military	23
Army (10)	
Navy (7)	
Air Force (6)	
FMIL (2)	
Federal	1,016
VA (1,015)	
OFA (1)	
Civilian	29
Interdepartmental	35
Total	1,105
Registry-only Cases	3,653 (No report required)
Total	4,758

Deployments

1. August 4-8, August 21-September 22, and September 29-30, 2003, Division of Cytopathology, Department of Cellular Pathology, AFIP, Washington, DC and Rockville, Md, MR Lewin-Smith.
2. September 1-12, 2003, Division of Gastrointestinal Pathology, Department of Hepatic and Gastrointestinal Pathology, AFIP, Washington, DC, LA Murakata.
3. August 2003, AFIP, Neuromuscular Laboratory and Gross Laboratory, Washington, DC, Pre-CAP inspections, CS Specht.

EDUCATION

Trainees

During 2003, the division provided training to 1 Nelson S. Irey Environmental Pathology Fellow for 12 months/254 days.

Faculty Appointments

MR Lewin-Smith:

1. Assistant Clinical Professor of Pathology, Department of Pathology, The George Washington University.
2. Adjunct Assistant Professor, Department of Pathology, Georgetown University.

Presentations

1. February 2003: Washington, DC, Department of Pathology, The George Washington University Medical Center, "The identification of foreign material in human pathology specimens," MR Lewin-Smith.
2. March 2003: Washington, DC, 92nd Annual Meeting of US/Canadian Academy of Pathology, "A histopathologic study of hematolymphoid specimens from Persian Gulf War military veterans," MR Lewin-Smith.
3. July 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Case 3: 80-year-old man with 'shotgun' pellets in peritoneum at autopsy. Case 4: 33-year-old female with rupture of breast implant," LA Murakata.
4. July 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "FTIR microspectroscopy of cotton fibers/cellulose and FTIR microspectroscopy of endometrial ablation-derived ceroid-like pigment," CS Specht.
5. July 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Embolized crospovidone (poly[N-vinyl-2-pyrrolidone]) and cellulose. Barium sulfate aspiration," MR Lewin-Smith.
6. October 2003: Durham, NC, Eastern Ophthalmic Pathology Society, "Orbital deposits of acute monocytic leukemia in a 5-month-old infant," CS Specht.
7. December 2003: Washington, DC, Department of Pathology, Georgetown University Medical Center, "Identification of materials in pathology specimens," MR Lewin-Smith.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

The division maintained the following AFIP-approved research projects in 2003. One new project was approved and 2 were finalized in 2003.

Principal Investigator: MR Lewin-Smith

1. A histopathologic study of hematologic specimens from Persian Gulf War military veterans.
2. The timing of hepatitis C seroconversion in a cohort of US military Gulf War veterans (GWVs).
3. A histopathologic study of liver specimens from Persian Gulf War military veterans.
4. Pathology of the lung in a cohort of former prisoners of war.
5. The anatomic pathology of former prisoners of war.

Principal Investigator: CS Specht

1. A review of gynecologic histopathology in a group of Gulf War veterans.
2. A review of the neuromuscular pathology of Gulf War veterans.
3. A follow-up study of colonic specimens without overt histopathologic abnormalities from a cohort of Persian Gulf War military veterans.

Collaborators

Military

KC Holtzmuller, COL, USA, MC, WRAMC, Hepatic disease in US military Gulf War veterans (GWVs).

Civilian

C Watkins and S Stofko, Prisoner of War Information System (POWIS). Pathology of the lung in former prisoners of war.

Interdepartmental

1. H Mena, COL, MC, USA, Neuromuscular pathology of Gulf War veterans.
2. L Rabin, MD, Hepatic disease in US military Gulf War veterans.
3. A Kende, Maj, USAF, MC, Follow-up study of Gulf War veterans with colonic specimens without overt histopathologic changes.
4. SL Abbondanzo, MD, A histopathologic study of hematolymphoid specimens from Persian Gulf War military veterans.

PROFESSIONAL ACTIVITIES

Official Trips

1. February 2003, Department of Pathology, The George Washington University Medical Center, Washington, DC, MR Lewin-Smith (AFIP).
2. March 2003, 92nd Annual Meeting of the US/Canadian Academy of Pathology, Washington, DC, CS Specht, MR Lewin-Smith.
3. October 2003, Eastern Ophthalmic Pathology Society, Durham, NC, CS Specht.
4. December 2003, Department of Pathology, Georgetown University Medical Center, Washington, DC, MR Lewin-Smith (AFIP).

Editorial Activity

Associate Editor and Acting Director, Center for Scientific Publications, AFIP, LA Murakata.

Victor F. Kalasinsky, PhD
Chief
Date of Appointment — 25 September 1989

DIVISION OF ENVIRONMENTAL TOXICOLOGY

STAFF

Scientific

Victor F. Kalasinsky, PhD, Chief
Steven C. Cordero, MS, Laboratory Manager
Thuy T. Luong, MS, Laboratory Technician
(D) Jessica R. Charak, BS, Laboratory Technician
(D) Kathryne C. E. Meakim, MS, Laboratory Technician
Jesse Tristan, BS, Computer Applications Specialist

IMPACT

1. Preliminary data suggest that it is possible to discriminate among different genera of microorganisms, so various spectroscopic methods of detecting biological agents, including microspectroscopy, chemical imaging, and photoacoustic spectroscopy, are being investigated and evaluated in collaboration with the Division of Microbiology.
2. A number of white powders suspected of being biological agents were identified using infrared and Raman spectroscopy and scanning electron microscopy with energy dispersive x-ray analysis.
3. The division was involved in a DARPA project to evaluate new technologies for the detection of biological aerosols.
4. The division supported USACHPPM, WRAMC, and the OAFME by analyzing specimens from patients serving in Iraq.
5. Data were obtained for the FDA to complement an investigation of a potentially harmful medical device.
6. The division participated in a Russian-American program to facilitate technology transfer in the countries of the former Soviet Union.
7. Work continued on improving detection limits for insect repellents sampled from transdermal sweat patches.
8. The AFIP-DoD-GEIS Directory of Public Health Laboratory Services was available online this year and was linked to commonly used search engines. Monthly newsletters were prepared highlighting important news related to emerging infections.
9. The division annually participates in 2 CAP proficiency tests and 2 NIST Intercomparison Exercises, and has begun a proficiency testing plan with another source.
10. The division tested used transformer oils and the effluent from tissue processing equipment for the AFIP Safety Office.
11. The division successfully completed the biennial CAP inspection on October 14, 2003.
12. Division staff served on the CAP team that inspected the Bowie Health Center, Bowie, Md, (July 28, 2003) and Harbor Hospital, Baltimore, Md (December 16, 2003) (VF Kalasinsky).
13. Division staff conducted QA review of 74 cases involving urinary calculi (VF Kalasinsky).

CONSULTATION

By using gas chromatography, mass spectrometry, liquid chromatography, Fourier transform infrared and Raman spectrometry, and scanning electron microscopy with energy dispersive x-ray analysis, we identified or characterized unknown chemical substances in 18 cases. These included pesticides, plastics, therapeutic drugs, and 4 cases of dioxin analysis in patients thought to have been exposed to Agent Orange in Vietnam. Other cases included serologic tests on Gulf War veterans.

Cases	*Completed*
Military	156
Army (141)	
Navy (9)	
Air Force (6)	
Federal	2
VA (2)	
Civilian	5
Interdepartmental	18
Total	181

EDUCATION

Faculty Appointments

Adjunct Professors, Hamline University, St Paul, Minn, VF Kalasinsky, SC Cordero.

Scientific Appointments

Guest Researcher, NIH (National Institute of Diabetes, Digestive, and Kidney Diseases), VF Kalasinsky.

Presentations

1. January 2003: Atlanta, Ga, Nicolet Research Symposium, "Infrared and Raman microscopy of foreign materials in tissue," VF Kalasinsky.
2. February 2003: Washington, DC, Optical Society of America, Optical Sensing for Homeland Security, "Identification of spore species by molecular spectroscopy," JF McClelland.
3. March 2003: Orlando, Fla, 54th Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "Microwave extraction of TCDD from adipose tissue," SC Cordero.
4. March 2003: Orlando, Fla, 54th Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "Instrumental analysis of clinical and forensic specimens," SC Cordero.
5. March 2003: Orlando, Fla, 54th Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "Application of vibrational microspectroscopy and scanning electron microscopy to the identification of foreign materials in pathology specimens," SC Cordero.
6. March 2003: Reno, Nev, Society of Armed Forces Medical Laboratory Scientists Meeting, "Development of an Internet-accessible DoD Directory of Public Health Laboratory Services," VF Kalasinsky, TT Luong, JR Charak, JO Tristan.
7. April 2003: Fairborn, Ohio, Toxicology and Risk Assessment Conference, "The Military Deployment Human Exposure Assessment Study: questionnaire, environmental and urine depleted uranium results," L May.
8. June 2003: Santa Barbara, Calif, International Symposium on Spectral Sensing Research, "Infrared spectra of *Bacillus subtilis* spores: the effect of growth media," DM Wong-Verelle.
9. August 2003: Washington, DC, Laboratory Joint Working Group, "AFIP and DoD-GEIS Directory of Public Health Laboratory Services," VF Kalasinsky.
10. November 2003: Pushchino, Russia, Workshop on Specific Pathogen-Free Animals in Research, "The value of conducting research and drug testing using good laboratory practices (GLP)," VF Kalasinsky.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

Division staff conducted research described in 11 approved protocols:

1. Military working dogs deployed to Southwest Asia as sentinels for human environmental exposure during the Persian Gulf War.
2. Histopathologic study of inflammatory and neoplastic skin lesions in Gulf War veterans.
3. Histopathologic study of inflammatory and neoplastic colon lesions in Gulf War veterans.
4. Infrared spectroscopic mapping of atherosclerotic plaques associated with sudden cardiac death.
5. A follow-up study of colonic specimens without overt histopathologic abnormalities from a cohort of Persian Gulf War military veterans.

6. A histopathologic review of head and neck specimens from a cohort of Persian Gulf War veterans.
7. The anatomic pathology of former prisoners of war.
8. Pathology of the lung in a cohort of former prisoners of war.
9. The timing of hepatitis C seroconversion in a cohort of Gulf War military veterans.
10. A histopathologic study of liver specimens from Persian Gulf War military veterans.
11. Histopathologic review and chemical analysis of autopsy material from the Agent Orange Registry.

In Gulf War-related studies, the division is participating in the DoD's Comprehensive Clinical Evaluation Program (CCEP). AFIP is charged with the long-term storage of blood and serum specimens collected from Gulf War veterans and their families who are reporting symptoms that might be related to service in the Gulf region. A database for diagnosis of surgical biopsies is also being maintained for Gulf War veterans reporting to VA or military hospitals.

Collaborators

Military/Federal

1. IW Levin, NIH, Bethesda, Md, Vibrational imaging of tissue samples.
2. KC Holtzmuller, COL, USA, WRAMC, Washington, DC, Hepatic disease in US military Gulf War veterans.
3. PW Kelley, JP Malone, JC Gaydos, VH MacIntosh, Global Emerging Infections System, Silver Spring, Md, DoD Directory of Public Health Laboratory Services.
4. AC Samuels, US Army Soldier Biological and Chemical Command, Aberdeen, Md, Infrared and Raman spectroscopic characterization of microorganisms.
5. JM Heller, US Army Center for Health Promotion and Preventive Medicine, Aberdeen, Md, Deployment surveillance of active duty US troops.
6. JD Eversole, Naval Research Laboratory, Rapid aerosol agent detection.
7. TL Hadfield, R Crawford, Division of Microbiology, AFIP, Infrared and Raman spectroscopic characterization of microorganisms.

Research Funds Received

1. DoD Global Emerging Infections System – MOA to establish, maintain, and manage a Web-based Directory of Public Health Laboratory Services.
2. US Army Soldier Biological and Chemical Command – MOA to characterize microorganisms spectroscopically.

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2003, CDC, Atlanta, Ga, VF Kalasinsky.
2. February 2003, Academy of Forensic Sciences, Chicago, Ill, JR Charak, TT Luong (ARP).
3. March 2003, 54th Pittsburgh Conference on Analytical Chemistry and Spectroscopy, Orlando, Fla, SC Cordero (ARP).
4. March 2003, Society of Armed Forces Medical Laboratory Scientists, Reno, Nev, VF Kalasinsky, JR Charak, TT Luong, JO Tristan (GEIS).
5. June 2003, International Symposium on Spectral Sensing Research, Santa Barbara, Calif, VF Kalasinsky (SBCCOM).
6. June 2003, Rapid Aerosol Agent Detection Meeting, Aberdeen Proving Ground, Md, VF Kalasinsky.
7. October 2003, Weapons of Mass Destruction, Indiana, Penn, VF Kalasinsky.
8. November 2003, Russian-American Bioindustry Initiative Integrated Toxicology Testing (RABIITT) program, Russia, VF Kalasinsky (CRDF).

Manuscripts Reviewed

VF Kalasinsky:

1. *Applied Spectroscopy* (3)
2. *Journal of Molecular Structure* (1)
3. *Journal of Physical Chemistry* (2)
4. *Spectrochimica Acta* (3)
5. *Vibrational Spectroscopy* (2)

Editorial Boards

Associate Editor, *Vibrational Spectroscopy*, VF Kalasinsky.

ADVANCED PATHOLOGY

GROUP 4

Hepatic & Gastrointestinal Pathology

Cardiovascular Pathology

Pulmonary & Mediastinal Pathology

Kamal G. Ishak, MD, PhD, FASCP, FRC Path (Hon), SES
Chair
Date of Appointment — 10 March 1965

DEPARTMENT OF HEPATIC AND GASTROINTESTINAL PATHOLOGY

ORGANIZATION

The department is organized into 2 divisions and the Office of the Chair:

1. Division of Hepatic Pathology, Zachary D. Goodman, MD, PhD, Chief
2. Division of Gastrointestinal Pathology, Leslie H. Sobin, MD, SES, Chief

STAFF–OFFICE OF THE CHAIR

Medical

Kamal G. Ishak, MD, PhD

Administrative

Fanny X. Revelo, Administrative Officer, ARP

IMPACT

The Department of Hepatic and Gastrointestinal Pathology provides expertise in consultation, supports the educational objectives of the AFIP intramurally and extramurally, and conducts research in diseases of the liver and gastrointestinal tract.

In 2003, the department chair was awarded the President's Award of the US/Canadian Academy of Pathology in recognition of his many contributions to the educational program of the Academy.

Division of Hepatic Pathology

Over the past several decades, the division has collaborated in numerous studies with civilian universities and other federal agencies, including the NIH, the FDA, and several military and VA medical centers. The Histology Activity Index, created by Dr. Ishak and others, is widely used for evaluating histologic responses in research on chronic hepatitis. Members of the division play a major role in pivotal clinical trials leading to FDA approval of new medications for the treatment of chronic viral hepatitis. The division produced landmark studies of nonneoplastic liver diseases, including various forms of chronic hepatitis, primary biliary cirrhosis, alcoholic liver disease, nonalcoholic steatohepatitis, drug-induced liver disease, and exotic infectious diseases of the liver. Over the decades the division has published authoritative clinicopathologic studies of large series of liver tumors in children and adults.

The division has educated clinicians and pathologists through its weekly Thursday Conference in the metropolitan Washington area, and its annual Hepatic Pathology Course (now in its 24th year). Dr. Ishak has directed 2 and Dr. Goodman has directed 3 postgraduate courses of the Annual Meeting of the American Association for the Study of Liver Diseases. The most recent course, in October 2003, was attended by nearly 3,000 participants from around the world.

Members of the division are internationally recognized authorities in the pathology of liver diseases, and have been called upon by the International Academy of Pathology to present in France, Japan, Austria, Hungary, the Netherlands, Australia, and Egypt. The department chair

has coauthored several sections of the IARC monograph on classification of tumors of the gastrointestinal tract and liver, and 3 chapters of the 4th edition of the authoritative textbook *Pathology of the Liver* (Churchill Livingstone). The division staff produced the AFIP Fascicle (Third Series) *Tumors of the Liver and Intrahepatic Bile Ducts* in 2001, and are currently writing a non-tumor fascicle on diseases of the liver.

Division of Gastrointestinal Pathology

The division's impact in consultation and education was impressive despite a net loss of medical staff. The educational mission was highlighted by the publication of 3 book chapters and 2 books, one of which was the AFIP Atlas of Tumor Pathology on intestinal tumors; an impressive number of presentations by staff; an exhibit on endoscopy at the National Museum of Health and Medicine; and the continued success of the highly acclaimed Annual Course on Endoscopic GI Tract Biopsies. Participation in distance learning exercises commenced with 2 video teleconferences and a video recording for DVD production. In recognition of distinguished faculty contributions as Professor of Pathology, the University Medal of the Uniformed Services University of the Health Sciences was awarded to Dr. Leslie H. Sobin, Chief, Division of Gastrointestinal Pathology.

CONSULTATION

The 2 divisions consulted on 5,508 cases and 216 intramural cases for a combined total of 5,724 cases (see division reports for a breakdown of cases).

EDUCATION

Faculty Appointments

KG Ishak:

1. Clinical Professor of Pathology, USUHS.
2. Professorial Lecturer, Mt. Sinai School of Medicine, Mt. Sinai University, New York, NY.

Presentations

KG Ishak:

1. March 2003: Washington, DC, Hans Popper Hepatopathology Society Meeting, "Drug-induced cholestasis."
2. May 2003: Leuven, Belgium, 36th Annual Meeting of the International Liver Study Group (the Gnomes), "Three cases of ductular reactions."
3. September 2003: Bethesda, Md, National Library of Medicine, 24th Annual Course Hepatopathology 2003, "Iron overload diseases."
4. September 2003: Bethesda, Md, National Library of Medicine, 24th Annual Course Hepatopathology 2003, "Fibrosis, cirrhosis and pre-neoplastic lesions."
5. September 2003: Bethesda, Md, National Library of Medicine, 24th Annual Course Hepatopathology 2003, "Tumors of the liver."
6. October 2003: Boston, Mass, 54th Annual Meeting of the American Association for the Study of Liver Diseases, "Pathologic spectrum of hepatotoxic reactions."

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by the department chair.

Projects

1. Focal nodular hyperplasia of the liver. Diagnostic criteria in needle biopsy specimens. A study of 100 cases.
2. Histopathology and x-ray microanalysis of the cystic duct lymph node. A study of 40 cases (in collaboration with the Department of Environmental Pathology).
3. Q-fever hepatitis. A study of 10 cases.

PROFESSIONAL ACTIVITIES

KG Ishak:

1. Registrar, Registry of Hepatic and Gastrointestinal Pathology, ARP.
2. Recipient of President's Award,US/Canadian Academy of Pathology, March 2003.

Zachary D. Goodman, MD, PhD
Chief
Date of Appointment — 1 January 1991

DIVISION OF HEPATIC PATHOLOGY

STAFF

Medical

Zachary D. Goodman, MD, PhD, Chief
Lionel Rabin, MD, Staff Pathologist
Anupamjit K. Mehrotra, MD, Staff Pathologist
Aaron Auerbach, MD, Staff Pathologist
(D) Harris Yfantis, MD, Callender-Binford Fellow

Administrative

Fanny X. Revelo, Secretary

CONSULTATIONS

Most cases submitted to the division pose diagnostic problems for the contributing pathologist, particularly those that deal with medical diseases of the liver, such as chronic hepatitis, chronic cholestatic disorders, and steatohepatitis. Neoplasms represent only about 20% of the consultation material. Many cases are sent by clinicians or patients requesting second opinions.

Our division made no change in the contributor diagnosis in 607 cases, a minor change in diagnosis in 939 cases, and a major change in diagnosis in 281 cases. We received 190 cases with no contributor diagnosis.

Cases	***Completed***
Military	347
Army (188)	
Navy (84)	
Air Force (75)	
Federal	562
VA (569)	
USPHS (11)	
OFA (26)	
Civilian	1,152
Interdepartmental	77
Total	2,138

EDUCATION

Courses

Members of the division participated in 3 non-AFIP courses, 1 nondepartmental AFIP course, and the 24th Annual Course in Hepatopathology, which had 120 participants for 360 training days.

Departmental Conferences

Division staff conducted daily microscopic pathology conferences for the staff and rotating fellows and residents. The Thursday Clinicopathologic Conference, now held for 38 consecutive years, continues to attract hepatologists, gastroenterologists, and pathologists from local federal, military, and civilian institutions. The sessions are attended by an average of 10 clinicians and pathologists.

Trainees

The division provided training to the following individuals, who attended departmental conferences and reviewed teaching material:

1. Harris Yfantis, MD, Callender-Binford Fellow, 130 training days.
2. 15 pathologists and fellows in gastroenterology (3 military, 12 civilian), 333 training days.

Faculty Appointments

1. Clinical Professor, USUHS, ZD Goodman.
2. Instructor, USUHS, A Auerbach.
3. Adjunct Associate Professor, Georgetown University, ZD Goodman.
4. Adjunct Professor, Temple University, Philadelphia, Penn, L Rabin.

Presentations

1. March 2003: Washington, DC, Georgetown University School of Medicine Sophomore Pathology Course, "Introduction to liver disease" (4 lectures), ZD Goodman.
2. April 2003: Bethesda, Md, AFIP Anatomic Pathology Review and Update, "Inflammatory diseases of the liver," ZD Goodman.
3. April 2003: Bethesda, Md, AFIP Anatomic Pathology Review and Update, "Tumors of the liver," ZD Goodman.
4. September 2003: Bethesda, Md, AFIP Hepatopathology 2003,"Introduction to liver pathology," ZD Goodman.
5. September 2003: Bethesda, Md, AFIP Hepatopathology 2003, "Biopsy diagnosis of hepatitis," ZD Goodman.
6. September 2003: Bethesda, Md, AFIP Hepatopathology 2003, "Biopsy diagnosis of cholestatic liver disease," ZD Goodman.
7. September 2003: Bethesda, Md, AFIP Hepatopathology 2003, "Case presentations," L Rabin.
8. September 2003: Bethesda, Md, AFIP Hepatopathology 2003, "Case presentations," A Auerbach.
9. September 2003: Bethesda, Md, AFIP Hepatopathology 2003, "Drug-induced liver disease," ZD Goodman.
10. October 2003: McLean, Va, Board Review in Gastroenterology, "Liver histopathology," ZD Goodman.
11. October 2003: Boston, Mass, American Association for the Study of Liver Diseases, "Pathologic evaluation of fibrosis," ZD Goodman.
12. November 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Fatty liver disease: the impending epidemic," ZD Goodman.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects Completed

1. A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C.
2. Diabetic hepatosclerosis: diabetic microangiopathy of the liver.

Projects in Progress

1. The HALT-C trial: a randomized controlled trial to evaluate the safety and efficacy of long-term Peginterferon alfa-2a for treatment of chronic hepatitis C in patients who failed to respond to previous interferon therapy.
2. Evaluation of liver histology in clinical trials of Entecavir for treatment of chronic hepatitis B infection.
3. Suspected lymphoma of the liver: a clinicopathologic study.
4. Evaluation of liver histology in a multicenter study of the epidemiology of nonalcoholic fatty liver (Epi-NAFL).

Collaborators

Military/Federal

1. NIH, NIDDK Liver Unit and NCI Laboratory of Pathology: HALT-C Trial.
2. AFIP Department of Hematopathology: Suspected lymphomas of the liver.

Civilian (and Civilian/Military)

1. New England Research Institutes, University of Washington Laboratory of Virology, University of Massachusetts, Massachusetts General Hospital, St. Louis University, University of Colorado, University of California at Irvine, University of Texas Southwestern, University of Southern California, University of Michigan, Medical College of Virginia Divisions of Gastroenterology/Hepatology and Departments of Pathology: HALT-C Trial.
2. Intermune, Inc.: A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C.
3. Bristol-Myers Squibb Pharmaceutical Research Institute: Entecavir for treatment of chronic hepatitis B infection.
4. Inova Fairfax Hospital: Multicenter study of the epidemiology of nonalcoholic fatty liver (Epi-NAFL).
5. St. Louis University: Diabetic hepatosclerosis.

Research Funds Received

1. A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C. Intermune, Inc., $119,900 in 2003.
2. Clinical trials of Entecavir for treatment of chronic hepatitis B infection. Bristol-Myers Squibb Pharmaceutical Research Institute, $174,500 in 2003.

PROFESSIONAL ACTIVITIES

Manuscripts Reviewed

Division staff reviewed 6 manuscripts in 2003 for the following journals:

1. *Human Pathology*
2. *Gastroenterology*
3. *New England Journal of Medicine*

Editorial Boards

Annals of Diagnostic Pathology, ZD Goodman.

Leslie H. Sobin, MD, SES
Chief
Date of Appointment — 1 January 1991

DIVISION OF GASTROINTESTINAL PATHOLOGY

STAFF

Medical

Leslie H. Sobin, MD, FRCPath, Chief; Director, Center for Scientific Publications
Nancy S. Dow, LTC, USA, Staff Pathologist
(D) David M. Burch, LCDR, MC, USN, Staff Pathologist
Christine M. Hobbs, MD, Staff Pathologist
Marc H. Labovich, MAJ, MC, USA, Staff Pathologist
(D) Harris Yfantis, MD, Callender-Binford Fellow

Administrative

Mayra E. Aguilera, Secretary, ARP

Visiting Scientists

Helen E. Remotti, MD
Birgitte H. Federspiel, MD

IMPACT

The division's impact in consultation and education was impressive despite a net loss of medical staff. The education mission was highlighted by the publication of 3 book chapters and 2 books, one of which was the AFIP Atlas of Tumor Pathology on intestinal tumors; an impressive number of presentations by staff; an exhibit on endoscopy at the National Museum of Health and Medicine; and the continued success of the highly acclaimed Annual Course on Endoscopic GI Tract Biopsies. Participation in distance learning exercises commenced with 2 video teleconferences and a video recording for DVD production. In recognition of distinguished faculty contributions as Professor of Pathology, the University Medal of the Uniformed Services University of the Health Sciences was awarded to Dr. Leslie H. Sobin, Chief, Division of Gastrointestinal Pathology.

CONSULTATION

Cases submitted to the division represent a mixture of problems: primarily neoplastic and precancerous lesions as well as inflammatory diseases. Among the relatively uncommon lesions that are unusually prominent in the division's accessions are carcinoids, mesenchymal tumors, lymphomas, appendiceal mucinous tumors, and surveillance biopsies for dysplasia in cases of ulcerative colitis and Barrett esophagus. The last of these is particularly frequent.

Of the cases reported, 23% had no contributor diagnosis, 38% had a minor diagnostic change, and 1.5% had a major diagnostic change. Staff members also participated in the review of consultation cases in the Division of Hepatic Pathology.

Cases	*Completed*
Military	803
Army (283)	
Navy (148)	
Air Force (362)	
Foreign military (10)	
Federal	1,166
VA (1,142)	
USPHS (1)	
OFA (23)	
Civilian	1,478
Interdepartmental	139
Total	3,586

Deployments
Dr. Labovich was deployed 8 times to the Dover Port Mortuary, Dover, Del as an Associate Armed Forces Medical Examiner.

Clinical Appointments
Associate Armed Forces Medical Examiner, Office of the Armed Forces Medical Examiner, AFIP, MH Labovich.

EDUCATION

Courses
Staff members participated in the 13th Annual Anatomic Pathology Review Course and organized the 14th Annual Course on Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, representing approximately 2,300 man-hours of training. Dr. Sobin was director of the 14th Annual Course on Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract.

The Virtual Gastrointestinal Endoscopic Biopsy Course provides CME credit for 40 cases on the AFIP website, http://www.afip.org/Departments/edu/webed/vgi/hgss01/frameset3.html.

Course Development
- Coordinator, Interdepartmental Surgical Pathology Conference, DM Burch.
- Coordinator, WRAMC-AFIP Gastroenterology-Pathology Correlation Conference, CM Hobbs.
- GI Division representative for AFIP Anatomic Pathology Course, CM Hobbs.

Trainees
The division provided training to 17 civilian and military gastroenterology fellows and pathologists. The total training days were 463.

Museum Exhibit
The division collaborated with the National Museum of Health and Medicine in preparing an exhibit titled "GI Journey," depicting the evolution of endoscopy, and gastrointestinal endoscopy in particular, with illustrations from the division's endoscopic biopsy atlas. The exhibit was inaugurated in May 2003 and is scheduled to be open for one year.

Faculty Appointments
1. Professor of Pathology, USUHS, Bethesda, Md, LH Sobin.
2. Adjunct Professor of Pathology, Georgetown University Medical Center, LH Sobin.
3. Adjunct Associate Professor of Pathology, USUHS, Bethesda, Md, DM Burch.
4. Adjunct Associate Professor of Pathology, USUHS, Bethesda, Md, CM Hobbs.
5. Adjunct Associate Professor of Pathology, USUHS, Bethesda, Md, MH Labovich.

Presentations
Division staff made over 30 presentations at medical schools, hospitals, meetings, and seminars. Details are listed below. A daily divisional conference is held to review all gastrointestinal cases accessioned within the previous 24 hours. The conference serves as the major educational forum and is part of the quality assurance program. A gastrointestinal radiology-pathology conference is held regularly. The staff also attends the daily hepatic pathology review conference and the weekly hepatic clinicopathologic conference. A monthly gastroenterology-

pathology correlation conference is held at WRAMC with AFIP staff and members of the WRAMC/NNMC gastroenterology program.

1. February 2003: Baltimore, Md, University of Maryland, Department of Pathology, "Unusual and difficult intestinal polyps," LH Sobin.
2. February 2003: Washington, DC, WRAMC Gastroenterology–AFIP Pathology Correlation Conference, "Non-neoplastic disorders of the small intestine," CM Hobbs.
3. February 2003: Bethesda, Md, NIH, "Non-neoplastic disorders of the small intestine and selected topics," CM Hobbs.
4. March 2003: Berlin, Germany, College of German Pathologists, "Colorectal carcinoma," LH Sobin.
5. March 2003: Berlin, Germany, College of German Pathologists, "Precancerous lesions of the large intestine," LH Sobin.
6. March 2003: Washington, DC, US/Canadian Academy of Pathology Annual Meeting, Poster Presentation, "Elastosis and elastofibromatous change in the gastrointestinal tract," CM Hobbs.
7. April 2003: Washington, DC, Georgetown University Medical Center, "Pathology of the gastrointestinal tract" (6 lectures to second-year medical students), LH Sobin.
8. April 2003: Rockville, Md, 13th Annual Anatomic Pathology Review Course, "Neoplastic lesions of the esophagus and stomach," NS Dow.
9. April 2003: Rockville, Md, 13th Annual Anatomic Pathology Review Course, "Non-neoplastic disorders of the lower gastrointestinal tract," CM Hobbs.
10. April 2003: Rockville, Md, 13th Annual Anatomic Pathology Review Course, "Non-neoplastic and reactive disorders of the upper GI tract," MH Labovich.
11. May 2003: Washington, DC, WRAMC Gastroenterology–AFIP Pathology Correlation Conference, "Non-neoplastic disorders of the colon," CM Hobbs.
12. June 2003: New York, NY, Memorial Sloan-Kettering Cancer Center, Department of Pathology, "Grand rounds: unusual and difficult intestinal polyps," LH Sobin.
13. July 2003: Washington, DC, WRAMC Teleconference Center, Eurotelepathology Course, "Precancerous lesions of the GI tract and their imitators," LH Sobin.
14. July 2003: Washington, DC, WRAMC Teleconference Center, Eurotelepathology Course, "Unusual and difficult intestinal polyps," LH Sobin.
15. August 2003: Philadelphia, Penn, National Medical Association, "Mass disaster and fatality management: forensic considerations of the Kitzsteinhorn funicular disaster in Kaprun, Austria, November 2000," MH Labovich.
16. September 2003: Bethesda, Md, AFIP/ARP Course, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Precancerous lesions of the GI tract and their imitators," LH Sobin.
17. September 2003: Bethesda, Md, AFIP/ARP Course, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Unusual and difficult intestinal polyps," LH Sobin.
18. September 2003: Bethesda, Md, AFIP/ARP Course, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Gastrointestinal carcinoids and neuroendocrine tumors," LH Sobin.
19. September 2003: Arlington, Va, Washington Hospital Center, Gastroenterology Board Review, "Pathology rounds," LH Sobin.
20. September 2003: Washington, DC, National Museum of Health and Medicine, Lecture to Museum Docents, "Endoscopy and imaging of the gastrointestinal tract," LH Sobin.
21. September 2003: Bethesda, Md, National Library of Medicine, 14th Annual Review of Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the GI Tract, "Gastrointestinal stromal tumors: pitfalls in diagnosis," NS Dow.
22. September 2003: Bethesda, Md, National Library of Medicine, 14th Annual Review of Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the GI Tract, "The spectrum of gluten-sensitive enteropathy anf the watery diarrhea colitis syndrome," CM Hobbs.
23. September 2003: Washington, DC, WRAMC Gastroenterology–AFIP Pathology Correlation Conference, "Non-neoplastic disorders of the small intestine, part I: malabsorption disorders," CM Hobbs.
24. October 2003: Bethesda, Md, USUHS, "Pathology of the gastrointestinal tract" (4 lectures to second-year medical students), LH Sobin.

25. October 2003: Washington, DC, WRAMC Gastroenterology–AFIP Pathology Correlation Conference, "Cases of the month," NS Dow.
26. December 2003: Washington, DC, WRAMC, AFIP Grand Rounds Video Teleconference, "Pitfalls in the diagnosis of intestinal polyps," LH Sobin.
27. December 2003: Washington, DC, AFIP Television Studio, Video Recording for DVD, "Precancerous lesions of the GI tract and their imitators," LH Sobin.
28. December 2003: Washington, DC, WRAMC Gastroenterology–AFIP Pathology Correlation Conference, "Non-neoplastic disorders of the small intestine, part II: infectious and other inflammatory disorders," CM Hobbs.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

1. Gastrointestinal stromal tumors (GISTs), clinicopathologic studies.
2. Expression of cytokeratin-7 and -20 of GI epithelial malignancies.
3. Follicular lymphoma of the GI tract, clinicopathologic study.
4. Proliferation, apoptosis, microsatellite instability, and cell adhesion molecules in neoplasms of the colorectum and appendix.
5. Neurogenic tumors of the GI tract, clinicopathologic study.
6. Pathology of small adenomas.
7. Pathology of eosinophilic gastroenteritis.
8. Endoscopic detection of dysplasia in Barrett esophagus.
9. Radiologic-pathologic correlations: gastrointestinal stromal tumors.
10. Radiologic-pathologic correlations: Meckel diverticulum.
11. Elastosis and elastofibromatous changes in the gastrointestinal tract.
12. Comparison of the clinical and molecular biological characteristics of early versus late age onset colorectal carcinoma in Filipinos.

Collaborators

Military/Federal

1. National Cancer Institute, Surveillance, Epidemiology, End Results (SEER) Program, International Classification of Diseases for Oncology and TNM/Prognostic Factors Classification and Cancer Staging.
2. National Cancer Institute, Surveillance, Epidemiology, End Results (SEER) Program, Primary malignant neoplasms of the appendix: population-based study.
3. Centers for Disease Control and Prevention, TNM/Prognostic Factors Classification and Cancer Staging.
4. Naval Medical Research Institute, Pathology of small adenomas.
5. National Institute of Allergy and Infectious Diseases, Pathology of eosinophilic gastroenteritis.
6. WRAMC/NIH, Endoscopic detection of dysplasia in Barrett esophagus.
7. USUHS, Comparison of the clinical and molecular biological characteristics of early versus late age onset colorectal carcinoma in Filipinos.
8. WRAMC, Division of Gastroenterology, Gastroenterology-pathology correlation conference (monthly).

Civilian

University of Southampton, UK, Proliferation, apoptosis, microsatellite instability, and cell adhesion molecules in neoplasms of the colorectum and appendix.

International

1. WHO, International Classification of Diseases for Oncology (ICD-O).
2. International Agency for Research on Cancer, WHO Classification of Tumors.
3. International Union Against Cancer (UICC), TNM/Prognostic Factors Classification and Cancer Staging.

PROFESSIONAL ACTIVITIES

Official Trips

1. March 2003, Berlin, Germany, German Pathology Congress, LH Sobin (German Pathology Congress).
2. March 2003, Lyon, France, WHO/IARC meeting on classification of lung tumors, LH Sobin (WHO).
3. May 2003, Geneva, Switzerland, TNM-Prognostic Factors Project committee meeting, LH Sobin (UICC).
4. June 2003, Memorial Sloan-Kettering Cancer Center, Grand Rounds, New York, NY, LH Sobin (MSKCC).
5. July 2003, Lyon, France, WHO/IARC meeting on classification of head and neck tumors, LH Sobin (WHO).

Professional Appointments

LH Sobin:

1. Chair, TNM/Prognostic Factors Project of the International Union Against Cancer
2. Member, WHO Expert Advisory Panel on Cancer

Editorial Work

LH Sobin:

1. Associate Editor, *AFIP Atlas of Tumor Pathology*, 3rd Series
2. Associate Editor, *AFIP Atlas of Tumor Pathology*, 4th Series
3. Associate Editor, *AFIP/ARP Atlas of Nontumor Pathology*
4. Series Coeditor, *WHO Classification of Tumors: Pathology and Genetics of Tumors*
5. Guest Editor, *Seminars in Surgical Oncology*

Renu Virmani, MD
Chair
Date of Appointment — 2 September 1984

DEPARTMENT OF CARDIOVASCULAR PATHOLOGY

STAFF

Medical

Renu Virmani, MD
Allen Burke, MD
Andrew Farb, MD
Frank D. Kolodgie, PhD
Robert Kutys, MS
(D) Erik Mont, MD
Herman K. Gold, MD (Interventional Cardiologist, 20%)

Scientific

Wendy Creighton, MD, Research Scientist, ARP
You-hui Liang, MD, Research Assistant
Helwig Avallone, HT (ASCP), Histopathology Laboratory Supervisor, ARP
Hengjing Ouyang, MD, Histopathology Technician, ARP
Xin Xu, HT (ASCP), Histopathology Technician, ARP
Russell M. Jones, Research Associate, ARP
Lila Adams, HT, MLT (ASCP), IHC Qualified, Immunohistochemical Research Technician, ARP
Patricia S. Wilson, BS, Research Assistant, ARP
Deena Weber, MS, Research Scientist, ARP
Leslie Keefer, BA, HTL (ASCP), Research Assistant, ARP
Rosalind Matthew, HT (ASCP), Histopathology Technician, ARP
Jinky Beyer, Histopathology Technician, ARP
Abebe Atiso, HT (ASCP), Histopathology Technician, ARP
Eduardo Acampado, Research Associate, ARP
Elias Rivera, MS, Pathologist Assistant, ARP
Addis Taye, Research Assistant, ARP
Paul Yates, Research Assistant, ARP
Kirubel Tefera, BS, Research Assistant, ARP
(D) Nasrin Klantaripour, Research Assistant, ARP
(A) Simone Ramnarine, Histopathology Technician, ARP
(A) Giselle Rivera, Histopathology Technician, ARP
(A) Narva Thompson, Histopathology Technician, ARP
(A) Barbara Munjal, MA, Quality Assurance Specialist, ARP

Administrative

Leslie Middleton, Administrator
Carol Ward, MSG, USA (Ret), BS, Administrator, ARP

IMPACT

The Department of Cardiovascular Pathology supports the mission of the Armed Forces Institute of Pathology by providing consultation, education, and research on the cardiovascular system for

the active military force, the VA, and other federal and civilian agencies.

Because sudden unexpected death is a common presentation in young military recruits with cardiac disease, we are studying genotypes of channel genes in collaboration with the OAFME in the epidemiologic study of sudden cardiac deaths. We are also participating in a study of myocarditis following smallpox vaccination and evaluating whether myocarditis, as a cause of sudden cardiac death, has decreased in the recruit population in the last decade versus earlier decades.

Although our understanding of atherosclerotic heart disease in the last 50 years has markedly increased, the incidence of sudden coronary death has not decreased. It is estimated that in the United States the number of sudden cardiac death ranges from 300,000 to 400,000 annually, which represents 50% or more of all cardiovascular deaths. Our laboratory is in the forefront of advances in coronary atherosclerosis and thrombosis research.

Over the past year we have studied the role of intraplaque hemorrhage and progression of coronary atheroma, specifically how it may affect the expansion of the necrotic core. In an effort to further understand the influence of intraplaque hemorrhage on lesion progression, we examined various types of human coronary plaques for hemorrhagic events. It interested us that areas of extravasated erythrocytes outside the vasculature, such as those found in atrial hemangioma, hemorrhagic pericarditis, and pulmonary hemorrhage, showed atherogenic changes consistent with the accumulation of free cholesterol, foamy macrophages, and iron with fibrosis. Interestingly, the cholesterol content of erythrocyte membrane exceeds that of all other cells in the body and therefore the accumulation of free cholesterol in plaque may be in part derived from erythrocyte membranes. Our studies found that red blood cells contribute to the deposition of free cholesterol, macrophage infiltration, and expansion of the necrotic core. This is important since it may widen our view regarding the origin of free cholesterol in developing vulnerable lesions. Since the initial studies of hemorrhage in human coronary arteries, we have developed an animal model of intramural hemorrhage in the rabbit. We find that red blood cells alone act as a potent atherogenic stimulus, which may be a critical step in developing a useful animal model of vulnerable plaque, which is currently lacking. These collective studies led to a publication in the *New England Journal of Medicine* (Kolodgie et al., NEJM 2003;349:2314).

We also extended our study of the effects of stents in coronary arteries and animal models. Dr. Farb and Dr. Virmani recently examined the role of late stent thrombosis (LST) (implant durations between 1 to 11.9 months). The pathological mechanisms of LST were as follows: 1) stenting across ostia of major arterial branches (5 cases); 2) exposure to radiation therapy (3 cases); 3) plaque disruption in the nonstented arterial segment within 2 mm of the stent margin (2 cases); 4) stenting of markedly necrotic, lipid-rich plaques with extensive plaque prolapse (2 cases); and 5) diffuse in-stent restenosis (1 case). We find that LST is a potentially fatal complication of coronary stenting. Stenting across branch ostia, disruption of adjacent vulnerable plaques, radiation therapy, and extensive plaque prolapse can precipitate LST. Impaired intimal healing (ie, the failure to form a complete neointimal layer over stent struts) extends the window during which stents are prone to thrombosis. This is a significant finding since drug-eluting stents delay neointimal healing and in some cases may increase the risk of LST.

We are currently exploring why diabetics with vascular disease have such a poor prognosis; coronary artery disease in these individuals is accompanied by greater plaque burden and the lesions tend to have greater inflammatory infiltrate, specifically macrophages. In particular, we are exploring receptors for advance glycation end products and S100A protein expression in diabetic and nondiabetic human coronary arteries.

We continue to study the effects of important risk factors/polymorphisms on atherosclerotic plaque morphology. In addition to serum high sensitivity C-reactive proteins and homocysteine, we are interested in lipoprotein-associated phospholipase A2 (Lp-PLA2), a proinflammatory enzyme associated primarily with LDL. Lp-PLA2 has been shown to be complementary to C-reactive protein in identifying individuals at high cardiovascular risk who have low LDL cholesterol. Serum and plaque morphology studies using our collection of sudden death arteries are underway in our laboratory.

There is a new emphasis on techniques to recognize the precursor lesions of coronary thrombosis. We were instrumental in describing the morphology of vulnerable plaques, location, incidence, and length in both coronary arteries and saphenous vein grafts. This has helped generate new interest in the medical community to not only identify those lesions prior to developing thrombi, but also to treat them so that the mortality and morbidity from coronary

heart disease could be further reduced.

The number of vascular interventions performed in the United States continues to increase. We are exploring in humans and animals the causes of stent failure, along with new technologies that may help lower the incidence of restenosis. Improvements in stent design and materials and the loading of drugs on the stents (in the presence and absence of polymers) are undergoing intense evaluation in our laboratory. We have shown this year that oral and parenteral drugs may be helpful in reducing the incidence of restenosis and that repeated intravenous therapy may be one of the ways of keeping the neointima from reappearing. We are currently studying these new technologies in patients in order to reduce the incidence of restenosis. Newly developed procedures involving the processing and cutting of stents have reduced time and increased output in our plastic laboratory.

CONSULTATION

Our department receives many complex cardiovascular cases. The vast majority of specimens received include gross tissue without prior diagnosis from the contributing pathologist. Working up gross hearts requires several hours of dissection, submission of multiple blocks, and often photography, radiography, and special stains. Gross tissue evaluation requires a detailed study of the coronary tree and bypass grafts (if present), which involves processing multiple vascular segments and blocks. Useful studies of the conduction system must be detailed, involving special stains of dozens of slides. The processing of vascular devices such as coronary stents often requires plastic embedding and special sectioning procedures (eg, EXAKT). Additionally, the department receives temporal artery biopsies (many of which require serial sectioning) and heart tumors requiring extensive immunohistochemical profiles. The remainder of the department's caseload consists of a variety of lesions not restricted to the coronary vasculature. Finally, several of the gross hearts accessioned from local military hospitals were examined with the submitting resident pathologist, contributing to residency teaching.

Cases	*Completed*
Military	66
Army (30)	
Navy (29)	
Air Force (7)	
Foreign Military	1
Federal	37
VA (33)	
OFA (4)	
Civilian	543
Interdepartmental	144
Total	791

Deployments

1. WRAMC, Staff Pathologist Weekly Sign-Outs, A Burke.
2. WRAMC, Monthly Conference, Department of Cardiology, A Farb.
3. OAFME, Rockville, Md, E Mont.

EDUCATION

Presentations and Seminars

Members of the department:

- Conducted over 99 seminars nationally and abroad.
- Conducted biweekly microscopic conferences reviewing cases and research results with staff and invited visitors.
- Provided clinicopathologic conferences at the Maryland Medical Examiner's Office (monthly), Howard University (bimonthly), WRAMC Cardiology (monthly), Georgetown University (quarterly), VA Hospital, Washington, DC (quarterly), and the Washington Hospital Center (monthly).
- Conducted slide seminars and lectures at WRAMC Pathology (1) and National Naval Medical Center (1).

Dr. Virmani served in 2 panel workshops:

- Women and Ischemia Syndrome Evaluation (WISE). This women's health initiative, sponsored by the National Heart, Lung and Blood Institute/NIH conducts research on cardiovascular disease in women.
- Medical Implant Research Panel, co-sponsored by the FDA/NIH/NIST.

Courses

Members of our department conducted or participated in 2 courses in 2003:

1. 13th Annual Anatomic Pathology Course, AFIP
2. 2nd International Conference on Cardiovascular Medicine and Science, Bethesda, Md

Trainees

Callender-Binford Fellow (143 days), Red Cross Volunteer (126 days), military training (22 days), ARP/AFIP Fellow (20 days).

Faculty Appointments

R Virmani:

1. Georgetown University, Clinical Professor, Department of Pathology
2. University of Maryland-Baltimore, Clinical Professor, Department of Pathology
3. USUHS, Clinical Professor, Department of Pathology
4. George Washington University, Clinical Professor, Department of Pathology
5. Howard University, Clinical Professor, Department of Pathology
6. NIH, Consultant, Department of Cardiology Vascular Medicine
7. Vanderbilt University, Nashville, Tenn, Clinical Research Professor, Department of Pathology

A Burke:

1. Georgetown University, Adjunct Professor of Pathology
2. USUHS, Clinical Associate Professor
3. Howard University, Associate Professor of Pathology

A Farb:

1. USUHS, Clinical Assistant Professor of Pathology
2. Georgetown University Medical Center, Clinical Assistant Professor of Medicine (Cardiology) and Pathology

F Kolodgie:

University of Maryland-Baltimore, Assistant Professor of Pathology

Presentations

1. January 2003: Eilat, Israel, TopSpin Meeting, "Vulnerable plaque and fibroatheroma. How different are these lesions?"
2. January 2003: Paris, France, French Society of Cardiology Meeting, "Lessons on pathological aspect of the drug-eluting stent."
3. January 2003: Paris, France, French Society of Cardiology Meeting, "Drug eluting stents: Everolimus animal studies."
4. January 2003: Miami Beach, Fla, International Symposium on Endovascular Therapy, "Radiation therapy debate: oversold hype."
5. January 2003: Miami Beach, Fla, International Symposium on Endovascular Therapy, "What is the real natural risk of carotid artery disease?"
6. January 2003: Miami Beach, Fla, International Symposium on Endovascular Therapy, "Analysis of particulates from protection devices."
7. January 2003: Geneva, Switzerland, 9th Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies, "Stable versus non-stable plaques: view of the pathologist."
8. January 2003: Geneva, Switzerland, 9th Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies, "Vasculo-pathological lessons: comparison of brachytherapy and drug eluting stents—focus on the endothelium."
9. January 2003: Geneva, Switzerland, 9th Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies, "Stent based delivery: cytostatic or cytotoxic compounds."
10. January 2003: Geneva, Switzerland, 9th Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies, "Experimental data: critical perspective on

drug eluting stents."
11. January 2003: Washington, DC, Cardiovascular Revascularization Therapy Course, "Pathology of the vulnerable plaque."
12. January 2003: Washington, DC, Cardiovascular Revascularization Therapy Course, "Delayed endothelialization and other late effects in animal models."
13. January 2003: Washington, DC, Cardiovascular Revascularization Therapy Course, "Drug-eluting stents: insights from human pathology studies."
14. January 2003: Washington, DC, Cardiovascular Revascularization Therapy Course, "Similarities and differences between brachytherapy and drug eluting stents."
15. January 2003: Washington, DC, Cardiovascular Revascularization Therapy Course, "Oral abstract presentation moderator."
16. January 2003: Washington, DC, Cardivoascular Resvascularization Therapy Course, "More pathology: healing, edge stenosis, thrombosis."
17. January 2003: San Diego, Calif, The Society of Thoracic Surgeons and The American Association for Thoracic Surgery's TECH-Con 2003, "Surgeons, don't be dismayed – drug eluting stents are not what they're cracked up to be by the interventionalists."
18. January 2003: Marseilles, France, High Tech 2003, "Percutaneous valve: the pathologist's point of view."
19. January 2003: Marseilles, France, High Tech 2003, "Drug eluting stents, from pigs to humans. What can the cardiologist learn from animal studies?"
20. February 2003: Rockville, Md, FDA Staff College, "Lessons learned: animal studies for drug-eluting stents."
21. February 2003: New Delhi, India, 8th International CME and Update in Surgical Pathology Conference, "Lessons learnt from sudden coronary deaths: a new classification of atherosclerotic lesions."
22. February 2003: New Delhi, India, 8th International CME and Update in Surgical Pathology Conference, "Cardiovascular pathology slide seminar."
23. February 2003: Washington, DC, AFIP Weekly Professional Staff Conference, "Pathologic insights on the promise and limitations of drug-eluting stents."
24. March 2003: Washington, DC, George Washington University, Cardiology Grand Rounds, "Restenosis through the eyes of the pathologist."
25. March 2003: Washington, DC, Society for Cardiovascular Pathology/USCAP Companion Session, "Diagnosis of unstable atherosclerotic plaque and ischemic heart disease."
26. March 2003: Washington, DC, US/Canadian Academy of Pathology Annual Meeting, Cardiovascular Dinner Seminar, "Case presentation."
27. March 2003: Paris, France, Endocoronary Biomechanics and Restenosis Symposium, "Plaque erosion: is it an atherosclerotic disease?"
28. March 2003: Chicago, Ill, 5th Annual Vulnerable Plaque Symposium, ACC Companion Session, "More than 50% of coronary events are caused by non-stenotic lesions; therefore, in the era of drug-eluting stents, we should stent all non-stenotic lesions detected by thermography or other techniques."
29. March 2003: Chicago, Ill, 5th Annual Vulnerable Plaque Symposium, ACC Companion Session, "Lessons learned from animal studies on predicting the safety and efficacy of drug-eluting stents."
30. March 2003: Chicago, Ill, Harbor UCLA Medical Center Research and Education Institute Dinner Seminar, "Significance of coronary calcification."
31. March 2003: Chicago, Ill, American College of Cardiology 52nd Annual Scientific Session, "Vascular biology: insights still come from classical histopathology."
32. March 2003: Chicago, Ill, American College of Cardiology 52nd Annual Scientific Session, "Restenosis: basic mechanisms."
33. March 2003: Chicago, Ill, American College of Cardiology 52nd Annual Scientific Session, "Pathophysiology of heart failure: what does a clinical cardiologist need to know?"
34. April 2003: Chicago, Ill, American College of Cardiology 52nd Annual Scientific Session, "The downside of drug eluting stents."
35. April 2003: Chicago, Ill, 34th Bethesda Conference, Task Force II at the American College of Cardiology 52nd Annual Scientific Session, "Pathologic basis for coronary imaging."
36. April 2003: Washington, DC, Roundtable—Biomedical Engineering Materials and Applications, "Science-based assessment: accelerating product development of combination medical devices."
37. April 2003: San Antonio, Tex, Cardiology Fiesta, Update on Cardiac Diagnostic and

Therapeutic Techniques, "Pathology of ischemic heart disease: new lessons from an old lesion."

38. April 2003: San Antonio, Tex, Cardiology Fiesta, Update on Cardiac Diagnostic and Therapeutic Techniques, "Pathology of stent implants, including coated stents."
39. April 2003: Washington, DC, American Society of Neuroradiology 41st Annual Meeting and Symposium, "Morphology of atherosclerosis in acute coronary syndromes."
40. May 2003: Berlin, Germany, European Symposium, "Drug coated stents: concepts in stenting."
41. May 2003: Washington, DC, Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology, "Oral administration of Imatinib (Gleevec) reduces in-stent restenosis in the NZW rabbit."
42. May 2003: Washington, DC, George Washington University Grand Rounds, "Surgeons don't be dismayed—drug-eluting stents are not what they're cracked up to be by the interventionalists."
43. May 2003: Washington, DC, Washington Hospital Center, JP Morgan 4th Annual Day with the Docs, "Drug-eluting stents: insights from a leading vascular pathologist."
44. May 2003: Paris, France, Euro PCR 2003, "Prevention and treatment of in-stent restenosis during live demonstrations from Rotterdam."
45. May 2003: Paris, France, Euro PCR 2003, Vulnerable Plaque, from Detection to Therapy – Symposium, "What do we know about vulnerable plaque? The pathologist's view."
46. May 2003: Paris, France, Euro PCR 2003, Glimpse into the Future I – The Vulnerable Plaque, "Histological types of 'vulnerable plaques.'"
47. May 2003: Paris, France, Euro PCR 2003, From Vulnerable Plaque to ACS, "Pathology of the unstable plaques."
48. May 2003: Paris, France, Euro PCR 2003, Case Review Session, "Acute MI without critical lesions: reality of vulnerable plaque."
49. May 2003: Paris, France, Euro PCR 2003, Renal, Supraortic, Misc. Session, "Is inflammation playing a role in the development of restenosis in PVD?"
50. May 2003: Paris, France, Euro PCR 2003, PFO, TASH, SVG, Non-Invasive Imaging During Live Demonstrations from London.
51. May 2003: Atlanta, Ga, Intervention 2003, "A pathologist's view of the evolution of drug-eluting stents."
52. June 2003: Boston, Mass, Massachusetts General Hospital, Cardiac Journal Club/Cardiac Research Seminar, "Beyond the vulnerable plaque: lessons from morphology."
53. June 2003: London, Ontario, Robarts Research Institute, "Drug-eluting stents: a balanced view."
54. June 2003: New York, NY, High Risk Plaques – New Understanding and Approaches Conference, "Coronary artery disease."
55. June 2003: Santorini, Greece, 1st International Vulnerable Plaque Meeting, Session I, "Pathology of the vulnerable plaque."
56. June 2003: Santorini, Greece, 1st International Vulnerable Plaque Meeting, Session VII, "The pathologist's view."
57. June 2003: Santorini, Greece, 1st International Vulnerable Plaque Meeting, Session III, "Treatment of vulnerable plaque (systemic)."
58. June 2003: Santorini, Greece, 1st International Vulnerable Plaque Meeting, Session VI, "Road ahead—dreams and visions."
59. June 2003: Washington, DC, American Society for Artificial Internal Organs Symposium, "The host response to stents and the influence of device design and patient factors on outcome."
60. July 2003: Bethesda, Md, Second International Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, "Plathologic insights into outcomes of arterial stents."
61. July 2003: Jackson Hole, Wyo, 5th Annual Global Endovascular Complications Seminar, "Cases of various causes of late thrombosis in human coronary artery stenting."
62. July 2003: Bethesda, Md, Second International Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, "The morphologic basis of atrial fibrillation."
63. August 2003: Raleigh/Durham, NC, Duke Cardiology Grand Rounds, "Atherosclerosis and diabetes."
64. August 2003: Galway, Ireland, Medtronic Ireland Lecture, "Restenosis."

65. August 2003: Galway, Ireland, Medtronic Ireland Lecture, "Drug eluting stents."
66. September 2003: Vienna, Austria, European Society of Cardiology Congress 2003, "Do taxol and sirolimus eluting stents solve the problem?"
67. September 2003: Chicago, Ill, The ACCF Cardiovascular Board Review, "Pathology of cardiovascular diseases."
68. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Plenary session – live case transmission."
69. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Drug-eluting stents I – preclinical."
70. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Will angiogenesis become a clinically useful tool for patients with refractory coronary ischemia? No—I see a long frustrating journey!"
71. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "The future of angiogenesis therapies."
72. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Vulnerable plaque—science, detection, and therapy."
73. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Ulceration, erosion and thin cap fibroatheromas: location and frequency in patients with AMI and sudden cardiac death."
74. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "The value of animal models in evaluating pathobiologic effects of drug-eluting stents: insights from past successes and failures."
75. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Understanding vulnerable plaque."
76. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Should we expect a late catch-up (late restenosis) after DES treatment? Is the genie already out of the bottle? You have simply postponed the inevitable!"
77. September 2003: Washington, DC, Transcatheter Cardiovascular Therapeutics 2003, "Patholobiologic observations in patients with drug-eluting stents: lessons learned from human necropsy and atherectomy specimens."
78. September 2003: Rochester, Minn, Mayo Clinic, Cardiovascular Grand Rounds, "Stent graft and drug eluting stents."
79. October 2003: Boston, Mass, Vulnerable Atherosclerotic Plaque: Diagnostic and Therapeutic Challenges in the 21st Century, "Pathology of stable plaques and plaques vulnerable to rupture or erosion."
80. October 2003: Santa Monica, Calif, Cedars-Sinai Heart Center, "Drug-eluting stents: hope, hype, and the test of time."
81. October 2003: Buenos Aires, Argentina, CECI 2003 Interventional Cardiology Meeting, "Do oral drugs work for reducing restenosis?"
82. October 2003: Buenos Aires, Argentina, CECI 2003 Interventional Cardiology Meeting, "Drug eluting stents: lessons from experimental and human data."
83. October 2003: Genoa, Italy, 24th National Congress of the Italian Society of Invasive Cardiology, "Stent design: material matters."
84. October 2003: Genoa, Italy, 24th National Congress of the Italian Society of Invasive Cardiology, "Drug-eluting stent euphoria."
85. October 2003: Genoa, Italy, 24th National Congress of the Italian Society of Invasive Cardiology, "Restenosis in diabetic patients."
86. October 2003: Kobe, Japan, Complex Catheter Therapeutics 2003, "Morphologic insights into restenosis."
87. October 2003: Moscow, Russia, Moscow Symposium, Institute of Experimental Cardiology of RCRIC, "Classification of atherosclerosis and risk factors."
88. October 2003: Athens, Greece, Athens Interventional Cardiovascular Therapeutics IV, "Brachytherapy and drug-eluting stents: the dark side of the moon."
89. November 2003: Recife, Brazil, 7th Congress of World Federation of Interventional and Therapeutic Neuroradiology, "Stroke."
90. November 2003: Recife, Brazil, 7th Congress of World Federation of Interventional and Therapeutic Neuroradiology, "Pathophysiology of restenosis: drug eluting stents."
91. November 2003: Bethesda, Md, NHLBI/NIH Seminar, "Morphologic insights into restenosis."

92. November 2003: New York, NY, Vascular and Endovascular Issues, Techniques and Horizons 30th Global Symposium, "Is all the hype about drug-eluting stents and brachytherapy justified?"
93. December 2003: Kolkata, India, Cardiological Society of India's 55th Annual Conference, "Pathophysiology of heart failure – modern insights."
94. December 2003: Kolkata, India, Cardiological Society of India's 55th Annual Conference, "Mechanisms of vascular injury, healing, and restenosis."
95. December 2003: Kolkata, India, Cardiological Society of India's 55th Annual Conference, "Pathogenesis of atherosclerosis – fatty streak to vulnerable plaque."
96. December 2003: Portland, Ore, US Army Tissue Replacement and Repair Annual Review Meeting, "Elastin graft urethral tissue repairs."
97. December 2003: Tel Aviv, Israel, 5th International Meeting on Interventional Cardiology: Frontiers in Interventional Cardiology, "Drug-eluting stents versus systemic therapy for restenosis."
98. December 2003: Tel Aviv, Israel, 5th International Meeting on Interventional Cardiology: Frontiers in Interventional Cardiology, "Pathology of the vulnerable plaque."
99. December 2003: Tel Aviv, Israel, 5th International Meeting on Interventional Cardiology: Frontiers in Interventional Cardiology, "Mini vulnerable plaque summit."

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

The department maintains ±25 AFIP-approved research protocols and 1 education protocol. Three research projects have a direct impact on military readiness:

1. A study of sudden death in military recruits (AFIP).
2. A collaboration with Oregon Medical Laser Center (OMLC grant) to develop elastin grafts for the treatment of combat casualties.
3. The NIH grant.

Non-AFIP/ARP Research Funds Received

1. Battlefield Surgical Tissue Replacement and Repair Using an Elastin Biomaterial Deployed Via Dye-Targeted Laser Fusion. Earle A. Chiles Research Institute, Oregon Medical Laser Center, Portland, Ore. March 1997 - February 2005, 5%. $100,000/year — KW Gregory, PI.
2. Plaque Progression, Apoptosis and Inflammation, NIH/NHLBI [1R01HL71148-01], $1,585,723, April 2002 – March 2007.

Our department also performed stent work for the following private companies to support research in stents and other cardiovascular interventions:

1. 3F Therapeutics
2. Abbott Labs
3. CV Therapeutics
4. EnoBionics
5. Guidant
6. Medtronic
7. Boston Scientific
8. Northwestern Medical
9. Trans Vascular
10. MicroVena
11. Cordis
12. University of Miami
13. Novoste
14. Reva Medical
15. Medtronic Heart Valves
16. 3F Heart Valve
17. Heart Care
18. Terumo
19. Cook Inc.

20. Biopure
21. Conor Med Systems
22. EV3
23. Oregon Medical Laser
24. River Valley Farms
25. PercuSurge
26. EPI
27. Sorin
28. PVT
29. CryoVascular
30. Coalescent Surgical Inc.
31. Bolton Medical
32. JOMED
33. Pharmasonics
34. Medlogics
35. Cleveland Clinic
36. Contegra
37. Paracor
38. AngioScore
39. MedNova
40. Carbon Medical
41. Biosensors
42. Kerberos
43. Advanced Stent Tech.
44. Lenox Hill
45. Polymerix
46. Spectranetics

Collaborators

Military/Federal

1. Allen Taylor, MAJ, MC, USA, Endovascular Stenting, Coronary Artery Disease
2. John Tighe, MAJ, MC, USA, Cardiology/Intravascular Ultrasound
3. Timothy O'Leary, PhD, Molecular Biology
4. Mei Sheng, PhD, Molecular Biology
5. Anthony E. Pusateri, PhD, US Army Institute of Surgical Research
6. John Karanian, FDA Device Evaluation

Civilian

1. Steven Schwartz, Vascular Pathology
2. Andrew Carter, Endoluminal Stenting
3. David Dichek, Gene Transfer
4. Arthur Zieske, Lipid Studies
5. Dennis Fowler, Forensic Pathology
6. Thomas Wight, Proteoglycans
7. Jacob Varghese, Coronary Atherosclerosis
8. Herman Gold, Interventional Cardiology
9. William Edwards, Cardiovascular Pathology
10. Stephen Oesterle, Interventional Cardiology
11. Augusto Pichard, Interventional Cardiology
12. Jagat Narula, Nuclear Cardiology, Cardiac Physiology
13. Louis Fink, Homocysteine and Risk Factors
14. Neil Weissman, Intravascular Ultrasound
15. Robert Schwartz, Endovascular Stents
16. Michael Mack, Aortosaphenous Vein Graft - Anastomosis
17. Steven Ramee, Endovascular Stents
18. Mun Hong, Endovascular Stenting
19. Gary Mintz, Intravascular Ultrasound
20. Richard Gallo, Cardiac Angiogenesis

21. Henry Tazelaar, Cardiopulmonary Pathology
22. Julio Palmaz, Stent Contaminants

International

1. Eloisa Arbustini, Cardiac Pathology, Genetic Diseases
2. Max Sangiorgi, Coronary Artery Disease and Interventions
3. Giulio Gabbiani, Smooth Muscle Cell Biology
4. Giulio Guagliumi, Drug-Eluting Stents

PROFESSIONAL ACTIVITIES

Official Trips

1. January 2003, TopSpin Meeting, Eilat, Israel, R Virmani (TopSpin).
2. January 2003, French Society of Cardiology Meeting, Paris, France, R Virmani (Guidant).
3. January 2003, 9th Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies, Geneva, Switzerland, R Virmani (LDDR).
4. January 2003, The Society of Thoracic Surgeons and The American Association for Thoracic Surgery's TECH-Con 2003, San Diego, Calif, R Virmani (STS/AATS).
5. January 2003, High Tech 2003, Marseilles, France, R Virmani (Organizing Committee).
6. February 2003, 8th International CME and Update in Surgical Pathology Conference, New Delhi, India, R Virmani (ARP).
7. March 2003, Endocoronary Biomechanics and Restenosis Symposium, Paris, France, R Virmani (Organizing Committee).
8. March 2003, American College of Cardiology 52nd Annual Scientific Session, Chicago, Ill, R Virmani (ARP).
9. March 2003, American College of Cardiology 52nd Annual Scientific Session, Chicago, Ill, AP Burke (ARP).
10. March 2003, Editorial and Consensus Conference for the WHO Classification of Tumours of the Lung, Thymus and Heart, Lyon, France, AP Burke (WHO).
11. April 2003, Cardiology Fiesta, Update on Cardiac Diagnostic and Therapeutic Techniques, San Antonio, Tex, A Farb (Organizing Committee).
12. May 2003, European Symposium, Berlin, Germany, R Virmani (Organizing Committee).
13. May 2003, Euro PCR 2003, Paris, France, R Virmani (Organizing Committee).
14. May 2003, Intervention 2003, Atlanta, Ga, R Virmani (Organizing Committee).
15. June 2003, Robarts Research Institute, London, Ontario, R Virmani (Robarts).
16. June 2003, 1st International Vulnerable Plaque Meeting, Santorini, Greece, R Virmani (Organizing Committee).
17. July 2003, 5th Annual Global Endovascular Complications Seminar, Jackson Hole, Wyo, R Virmani (Organizing Committee).
18. August 2003, Duke Cardiology Grand Rounds, Raleigh/Durham, NC, R Virmani (Duke/ARP).
19. August 2003, Medtronic Ireland Lecture, Galway, Ireland, R Virmani (Medtronic).
20. September 2003, European Society of Cardiology Congress 2003, Vienna, Austria, R Virmani (Medtronic).
21. September 2003, Mayo Clinic, Rochester, Minn, Cardiovascular Grand Rounds, R Virmani (Mayo Clinic).
22. October 2003, Vulnerable Atherosclerotic Plaque: Diagnostic and Therapeutic Challenges in the 21st Century, Boston, Mass, R Virmani (Amersham Health).
23. October 2003, CECI 2003 Interventional Cardiology Meeting, Buenos Aires, Argentina, R Virmani (CECI).
24. October 2003, 24th National Congress of the Italian Society of Invasive Cardiology, Genoa, Italy, R Virmani (GISE).
25. October 2003, Moscow Symposium, Institute of Experimental Cardiology of RCRIC, Moscow, Russia, R Virmani (Celera Diagnostics).
26. October 2003, Athens Interventional Cardiovascular Therapeutics IV, Athens, Greece, R Virmani (AICT).
27. October 2003, Cedars-Sinai Heart Center, Santa Monica, Calif, A Farb (Organizing Committee).
28. October 2003, Complex Catheter Therapeutics 2003, Kobe, Japan, A Farb (Organizing Committee).

29. November 2003, 7th Congress of World Federation of Interventional and Therapeutic Neuroradiology, Recife, Brazil, R Virmani (WFITN 2003).
30. November 2003, Vascular and Endovascular Issues, Techniques and Horizons 30th Global Symposium, New York, NY, R Virmani (VEITH).
31. December 2003, Cardiological Society of India's 55th Annual Conference, Kolkata, India, R Virmani (CSI-2003/ARP).
32. December 2003, 5th International Meeting on Interventional Cardiology: Frontiers in Interventional Cardiology, Tel Aviv, Israel, R Virmani (Organizing Committee).
33. December 2003, US Army Tissue Replacement and Repair Annual Review Meeting, Portland, Ore, AP Burke (Oregon Medical Laser Center).

Editorial Boards

R Virmani:

1. *Human Pathology*
2. *Modern Pathology*
3. *Circulation*
4. *Journal of Invasive Cardiology*
5. *Cardiovascular Pathology*
6. *Pathology Case Review*
7. *Cardiovascular Radiation Medicine*
8. *Atherosclerosis, Arteriosclerosis, Thrombosis and Vascular Biology*
9. *Catheterization and Cardiovascular Interventions*
10. *American Journal of Cardiology*

A Burke:
Pathology

A Farb:
Cardiovascular Radiation Medicine (Journal Editor)

Manuscripts Reviewed

Members of the department reviewed 150 articles for the following professional journals:

1. *Journal of the American College of Cardiology*
2. *American Journal of Clinical Pathology*
3. *Laboratory Investigation*
4. *Human Pathology*
5. *Modern Pathology*
6. *Circulation*
7. *Cardiovascular Pathology*
8. *Pathology Case Review*
9. *Cardiovascular Radiation Medicine*
10. *Archives of Pathology and Laboratory Medicine*
11. *Mayo Clinic Proceedings*
10. *American Journal of Pathology*
11. *Cardiovascular and Interventional Radiology*
12. *American Journal of Cardiology*
13. *Journal of Respiratory Distress*
14. *New England Journal of Medicine*
15. *Lancet*
16. *Atherosclerosis, Arteriosclerosis, Thrombosis, and Vascular Biology*
17. *Journal of Invasive Cardiology*
18. *Catheterization and Cardiovascular Interventions*
19. *American Heart Journal*
20. *Annals of Medicine*
21. *Expert Opinion on Investigational Drugs*
22. *Heart*
23. *European Heart Journal*

William D. Travis, MD
Chair
Date of Appointment — November 1, 1993

DEPARTMENT OF PULMONARY AND MEDIASTINAL PATHOLOGY

STAFF

Medical

William D. Travis, MD
Teri J. Franks, MD
Dennis L. Hayden, MD
Elena Selbs, MD

Scientific

Konstantin Shilo, MD, NIH/AFIP Pulmonary Pathology Fellowship Program
Haodong Xu, MD, NIH/AFIP Pulmonary Pathology Fellowship Program
Junya Fukuoka, MD, National Cancer Institute/AFIP Fellow

Administrative

Tammie Winters, Administrative Officer
Kim Jones, Secretary

IMPACT

Our department staff are some of the world's foremost authorities on thoracic pathology. We have provided key leadership in the recent 2002 ATS/ERS classification of idiopathic interstitial pneumonias and the 2004 World Health Organization classification of tumors, *Pathology and Genetics: Tumours of the Lung, Pleura, Thymus and Heart,* published by the International Association for Research on Cancer in Lyon, France. In 2003 our department hosted a workshop sponsored by the American Thoracic Society on nonspecific interstitial pneumonia that will result in the defining criteria for this entity. Dr. Travis, as lead editor of the WHO *Histologic and Genetic Classification of Lung, Pleural, Thymic and Heart Tumours*, also chaired the WHO meeting in Lyon, France where lead authors for this book came together to compile and edit the manuscript.

Fourteen cases sent to Dr. Travis for consultation from Singapore in the middle of the SARS epidemic provided the basis for a paper that Dr. Franks published in *Human Pathology* on the lung pathology of SARS (one of the first on this topic), and also for the SARS Hot Topic on the AFIP website. This website was an invaluable worldwide resource for disseminating information about SARS during the 2003 epidemic. In collaboration with Dr. Taubenberger in the Division of Molecular Pathology, we developed a method for detecting the SARS coronavirus in paraffin sections.

Our department also played a key role in the diagnosis of acute eosinophilic pneumonia in several fatal cases that were part of the recent cluster of cases of severe respiratory illness observed in active duty military personnel in the Middle East war theater. We have continued to monitor lung pathology in military personnel and their dependents, and are trying to obtain support from the Army Surgeon General and Department of Health Affairs for this work.

CONSULTATION

Approximately 60% of our consultation cases are tumors and 40% are nonneoplastic thoracic disorders. We provide state-of-the-art consultative work for pathologists worldwide in pulmonary, pleural, and mediastinal pathology. We are the only pathology consultants who work very closely with a world-class thoracic radiologist and pulmonologist to provide complete clinical-pathologic and radiologic consultation opinions. Our work is highly military-relevant, as our international stature in the civilian realm is brought to bear on all of our military consultations.

Our department made a minor change in diagnosis in 815 cases (36%), a major change in diagnosis in 58 cases (3%), and no change in contributor diagnosis in 874 cases (38%). We received 534 cases (23%) with no contributor diagnosis.

Cases	*Completed*
Military	257
Army (118)	
Navy (56)	
Air Force (83)	
Federal	687
VA (659)	
USPHS (6)	
OFA (22)	
Civilian	1,334
Interdepartmental	524
Total	2,802

Clinical Appointments

1. Consultant, Pulmonary Pathology, Laboratory of Pathology, NCI/NIH, WD Travis.
2. Consultant, Pulmonary Pathology, Pathology and Pulmonary Branch, National Heart, Lung, and Blood Institute, NIH, WD Travis.

EDUCATION

Trainees

Our department is well recognized as an international center for training in pulmonary pathology. For the past year, we've had a visitor from Japan. We have had many applications for future fellowship positions from around the United States and the world. Our resources provide a unique opportunity for fellowship training, which is a major priority of the department. During 2003, doctors rotating through our department included 2 from Howard University, 1 from the University of Illinois, 1 from Vanderbilt University, 2 from WRAMC, 1 from New York University, 2 from the Medical Examiner's Office, and 1 from Brandon Regional Hospital, Fla.

Faculty Appointments

Adjunct Professor, Department of Pathology, Georgetown University School of Medicine, WD Travis.

Presentations

1. January 2003: Baltimore, Md, University of Maryland Medical Center, Interstitial Lung Disease Research Symposium, "Smoking-related interstitial lung disease," TJ Franks.
2. January 2003: Concord, NC, Northeast Medical Center, "Approach to diagnosis of idiopathic interstitial pneumonias," WD Travis.
3. January 2003: Concord, NC, Northeast Medical Center, "Case presentations: microscopic slide review," WD Travis.
4. January 2003: Concord, NC, Northeast Medical Center, "Case discussions," WD Travis.
5. February 2003: Miami Beach, Fla, 28th Annual Review and Recent Practical Advances in Pathology, "Problems in lung cancer diagnosis," WD Travis.
6. February 2003: Miami Beach, Fla, 28th Annual Review and Recent Practical Advances in Pathology, "Pleural biopsy interpretation," WD Travis.
7. February 2003: Miami Beach, Fla, 28th Annual Review and Recent Practical Advances in Pathology, "Approach to diagnosis of idiopathic interstitial pneumonias," WD Travis.
8. February 2003: Miami Beach, Fla, 28th Annual Review and Recent Practical Advances in

Pathology, "Surgical pathology of the mediastinum," WD Travis.

9. March 2003: Osaka, Japan, 100th Osaka Meeting on Diffuse Interstitial Lung Disease, Keynote Lecture, "Pathologic aspects of classification of idiopathic interstitial pneumonias," WD Travis.
10. March 2003: Washington, DC, US/Canadian Academy of Pathology, 2001 ATS/ERS International Multidisciplinary Consensus Classification, Pulmonary Pathology Society Companion Meeting, "Pathology of idiopathic pulmonary fibrosis, acute interstitial pneumonia, cryptogenic organizing pneumonia, lymphoid interstitial pneumonia, and idiopathic interstitial pneumonias (IIP)," WD Travis.
11. April 2003: Cincinnati, Ohio, University of Cincinnati, Department of Medicine, Pulmonary Division, "The ATS/ERS classification of idiopathic interstitial pneumonias," WD Travis.
12. April 2003: Cincinnati, Ohio, Cincinnati Society of Pathologists, "New concepts in classification of interstitial pneumonias," WD Travis.
13. April 2003: Cincinnati, Ohio, Lymphangioleiomyomatosis Symposium, "New insights into the pathology of lymphangioleiomyomatosis," WD Travis.
14. April 2003: Rockville, Md, 13th Annual AFIP Anatomic Pathology Course, "The pathology of idiopathic interstitial pneumonias," WD Travis.
15. April 2003: Los Angeles, Calif, Fleischner Society, "Case-based approach to interstitial pneumonias: interaction between clinicians, pathologists and radiologists," WD Travis.
16. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Function and reactive processes including inflammatory diseases of the pleura," WD Travis.
17. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Primary tumors of the pleura, part 1," WD Travis.
18. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Primary tumors of the pleura, part 2," WD Travis.
19. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Tumors of submesothelial origin," WD Travis.
20. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Tumors of the thymus and related lesions, part 1," WD Travis.
21. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Tumors of the thymus and related lesions, part 2," WD Travis.
22. April 2003: Copenhagen, Denmark, Danish Society of Pathology, Postgraduate Pathology Course, "Case discussion of pleural and mediastinal tumors," WD Travis.
23. April 2003: Rockville, Md, 13th Annual AFIP Anatomic Review Course, "Lung tumors: the WHO classification," TJ Franks.
24. April 2003: Rockville, Md, 13th Annual AFIP Anatomic Review Course, "Unusual tumors and tumor-like lesions of the lung," TJ Franks.
25. April 2003: Rockville, Md, 13th Annual AFIP Anatomic Review Course, "Pathology of the mediastinum and pleura," TJ Franks.
26. May 2003: Seattle, Wash, American Thoracic Society 99th International Conference, Postgraduate Course: Early Lung Cancers: Evolving Pathology, Biology, Diagnosis and Therapy, "The updated WHO Classification of Bronchogenic Carcinomas: a microscopic perspective," WD Travis.
27. May 2003: Seattle, Wash, American Thoracic Society 99th International Conference, Postgraduate Course: Interstitial Lung Diseases: Current Concepts and Controversies, "Interstitial lung disease: a potpourri of histopathology," WD Travis.
28. May 2003: Seattle, Wash, American Thoracic Society 99th International Conference, "Pathologic features of NSIP: report of ATS Workshop on Idiopathic Nonspecific Interstitial Pneumonia (NSIP)," WD Travis.
29. May 2003: Seattle, Wash, American Thoracic Society 99th International Conference, SARS Symposium, "Lung pathology of severe acute respiratory syndrome (SARS)," WD Travis.
30. May 2003: Seattle, Wash, American Thoracic Society 99th International Conference, "Pathological classification of idiopathic interstitial pneumonias: current concepts. Idiopathic interstitial pneumonias: an international, translational view," WD Travis.
31. May 2003: Madrid, Spain, Congress of the Spanish Society of Pathology, "Neuroendocrine pulmonary neoplasms," WD Travis.
32. May 2003: Madrid, Spain, Congress of the Spanish Society of Pathology, "Neuroendocrine differentiation in non-small cell lung carcinomas," WD Travis.

33. May 2003: Madrid, Spain, Congress of the Spanish Society of Pathology, "The ATS/ERS classification of interstitial pneumonias," WD Travis.
34. June 2003: Chicago, Ill, American Society of Clinical Oncologists, "Challenges in lung cancer pathology, conundrums in the management of lung cancer" (presented twice), WD Travis.
35. June 2003: Chicago, Ill, American Society of Clinical Oncologists, Short Course, "Surgical pathology of non-neoplastic lung disease," WD Travis.
36. June 2003: Boston, Mass, Brigham and Women's Hospital, "The ATS/ERS classification of idiopathic interstitial pneumonias," WD Travis.
37. July 2003: Bethesda, Md, NHLBI/NIH, Working Group on SARS, SARS Pulmonary Research, "Lung pathology of severe acute respiratory syndrome (SARS)," TJ Franks.
38. August 2003: International Association for the Study of Lung Cancer, 10th World Lung Conference on Lung Cancer, "High-grade neuroendocrine tumors: what we know and important unanswered questions," WD Travis.
39. September 2003: New York, NY, New York Pathology Society, "Dynamic integrated approach to classification of interstitial pneumonias," WD Travis.
40. September 2003: New York, NY, Controversies in Lung Cancer Treatment, "Non-small cell lung cancer with neuroendocrine differentiation. A new entity?" WD Travis.
41. September 2003: Vienna, Austria, European Respiratory Society, "High-grade neuroendocrine tumors, the vital role of NE cells in lung development and neoplasia," WD Travis.
42. October 2003: New York, NY, 8th Annual Perspectives in Thoracic Oncology, "What is large cell neuroendocrine lung cancer?" WD Travis.
43. October 2003: Washington, DC, WRAMC, "Pulmonary pathology review for pulmonary medicine boards, part I," WD Travis.
44. October 2003: Washington, DC, WRAMC, "Pulmonary pathology review for pulmonary medicine boards, part II," WD Travis.
45. October 2003: Bethesda, Md, NHLBI/NIH, Working Group on SARS, Clinical Issues and Respiratory Failure in SARS, "Lung pathology of SARS," TJ Franks.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

In 2003, the department maintained 13 research protocols:

1. Analysis of lung cancer using tissue microarray.
2. Lymphangioleiomyomatosis.
3. Localized fibrous tumor of the pleura.
4. Neuroendocrine tumors of the lung.
5. Immunohistochemical staining for p53, PDGF, and p16 antibodies in malignant mesotheliomas and atypical mesothelial hyperplasia.
6. Inflammatory pseudotumor of the lung: a clinicopathologic study of 75 cases.
7. Pulmonary sclerosing hemangioma.
8. Chronic fibrosing pleuritis, atypical mesothelial hyperplasia, and desmoplastic mesothelioma.
9. Molecular biology of lung cancer.
10. Histologic analysis and immunohistochemical staining profile of pleuropulmonary blastoma.
11. Use of immunohistochemistry in determination of primary sites for carcinoma presenting in the mediastinum and separation of thymoma from atypical thymoma and thymic carcinoma.
12. Correlation of pulmonary, mediastinal and pleural pathologic findings with radiologic studies.
13. Lung pathology of severe acute respiratory syndrome (SARS).

Collaborators

Federal

1. National Heart Lung and Blood Institute/NIH: Lymphangioleiomyomatosis and interstitial lung disease.
2. National Cancer Institute: Molecular biology of lung cancer.

Civilian

1. Mayo Clinic: Molecular biology of lung cancer, neuroendocrine lung tumors.
2. Brompton Hospital, London, England: Neuroendocrine lung tumors.
3. University of Grenoble, France: Neuroendocrine lung tumors, molecular biology of lung cancer.
4. Caen, France: Molecular biology of lung cancer, malignant mesothelioma.
5. University of Maastricht, The Netherlands: Neuroendocrine lung tumors.
6. Emory University, Atlanta, Ga: Inflammatory pseudotumors.
7. University of Southern California, Los Angeles: Interstitial lung disease.
8. University of California, San Francisco: Interstitial lung disease.
9. University of Iowa: Interstitial lung disease.
10. University of Colorado: Interstitial lung disease.
11. Kyoto University, Japan: Interstitial lung disease.

PROFESSIONAL ACTIVITIES

Official Trips

TJ Franks:

January 2003, Baltimore, Md, University of Maryland Medical Center, Interstitial Lung Disease Research Symposium.

WD Travis:

1. January 2003, Northeast Medical Center, Concord, NC.
2. February 2003, 28th Annual Review and Recent Practical Advances in Pathology, Miami Beach, Fla.
3. March 2003, 100th Osaka Meeting on Diffuse Interstitial Lung Disease, Osaka, Japan.
4. March 2003, 2001 ATS/ERS International Multidisciplinary Consensus Classification, Pulmonary Pathology Companion Meeting, US/Canadian Academy of Pathology, Washington, DC.
5. April 2003, Pulmonary Division, Department of Medicine, University of Cincinnati, Ohio.
6. April 2003, Cincinnati Society of Pathologists, Cincinnati, Ohio.
7. April 2003, Lymphangioleiomyomatosis Symposium, Cincinnati, Ohio.
8. April 2003, Fleischner Society, Los Angeles, Calif.
9. April 2003, Postgraduate Pathology Course, Danish Society of Pathology, Copenhagen, Denmark.
10. May 2003, American Thoracic Society 99th International Conference, Seattle, Wash.
11. May 2003, Congress of the Spanish Society of Pathology, Madrid, Spain.
12. June 2003, American Society of Clinical Oncologists, Chicago, Ill.
13. June 2003, Brigham and Women's Hospital, Boston, Mass.
14. August 2003, 10th World Lung Conference on Lung Cancer, International Association for the Study of Lung Cancer.
15. September 2003, New York Pathology Society, New York, NY.
16. September 2003, Controversies in Lung Cancer Treatment, New York, NY.
17. September 2003, European Respiratory Society, Vienna, Austria.
18. October 2003: 8th Annual Perspectives in Thoracic Oncology, New York, NY.

Manuscripts Reviewed

Dr. Travis reviewed 30 manuscripts for professional journals in 2003; Dr. Franks reviewed 1 manuscript for *Lancet*.

Editorial Boards

WD Travis:

1. *American Journal of Surgical Pathology*, 1990-present.
2. *Human Pathology*, 1999-present.
3. *Clinical Cancer Research*, Associate Editor, 1999-present.
4. *Lung Cancer*, 2000-present.
5. *Pathology International*, 2001-present.
6. *Mayo Clinic Proceedings*, 1994-1996.
7. Editorial Advisory Board, Fourth Series of the AFIP Atlas of Tumor Pathology.

TJ Franks:
Abstract Review Board, USCAP, 2003.

Website Editing
Editor and Cofounder, Hot Topics Series (Web-based modules on emerging diseases), AFIP, TJ Franks.

Panels
WD Travis:
1. Chair, Pathology Panel, International Association for the Study of Lung Cancer
2. Member, US/Canadian Mesothelioma Reference Panel
3. Member, International Association for the Study of Lung Cancer/National Cancer Institute SPORE Pathology Working Group: Classification of Preinvasive Epithelial Abnormalities of Lung
4. Member, International Mesothelioma Panel
5. Cochair, American Thoracic Society Nonspecific Interstitial Pneumonia Working Group
6. International Association for the Study of Lung Cancer Staging Committee

Chair or Moderator of Sessions at Academic Meetings
WD Travis:
1. February 28, 2003: Discussant of Problem Cases, 100th Osaka Meeting on Diffuse Interstitial lung disease, Osaka, Japan.
2. March 12-15, 2003: Cochair, World Health Organization Classification of Tumours, Pathology and Genetics, Tumours of the Lung, Pleura, Thymus, and Heart; IARC, Lyon, France.
3. May 18, 2003: Cochair, Pathologic Features of NSIP: Report of ATS Workshop on Idiopathic Nonspecific Interstitial Pneumonia (NSIP), American Thoracic Society, 99th International Conference, Seattle, Wash.
4. July 31, 2003: Comoderator, Interstitial Lung Diseases I, Third Biennial Symposium of the Pulmonary Pathology Society, Snowmass, Colo.
5. September 28, 2003: Comoderator, High-Grade Neuroendocrine Tumors, the Vital Role of NE cells in Lung Development and Neoplasia. European Respiratory Society, Vienna, Austria.

Awards
Dr. Franks received the Department of the Army Superior Civilian Service Award for July 2002 to July 2003, for her development and fielding of the first-ever website on the pathology of SARS.

DIRECTORATE OF FIELD OPERATIONS

Charles W. Pemble III
Col, USAF, DC
Director, Field Operations

BIOSURETY OFFICE

OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

Charles W. Pemble III, Col, USAF, DC
Director, Field Operations
Date of Appointment — 28 January 2002

DIRECTORATE OF FIELD OPERATIONS

STAFF

Mark Vojtecky, Lt Col, USAF, MSC, Administrative Officer

IMPACT

The directorate provides:

- Staff coordination for operational readiness planning, mobilization, and training.
- Facilitates delivery of maximum medicolegal and forensic science support from the AFIP to US Army and DoD operations.
- Enhancement of the OAFME and supporting pathology processes that contribute to medicolegal investigations, environmental and infectious disease threat assessment, and implementation of field-focused support and assistance through the departments of Veterinary Pathology and Telepathology.

The directorate also ensures regulatory compliance with the Institute's Biosurety program in the use and transfer of biological select agents and toxins, in support of basic and applied biologic research projects.

OFFICE OF BIOSURETY

STAFF

The Office of Biosurety is organized under the Directorate of Field Operations, and includes the following personnel:

1. Gary Comontofski, Biosurety Officer
2. Charles Pemble, Col, USAF, Responsible Official
3. Mary Klassen-Fischer, MD, Alternate Responsible Official

IMPACT

The Office of Biosurety is responsible to the Director of Field Operations for managing AFIP's Biosurety Program and ensuring all requirements are met, as established by DoD directives, Code of Federal Regulations, United States Army Medical Command (MEDCOM), and the Army Biosurety Program. The Biosurety Program is also responsible for meeting all Centers for Disease Control and Prevention (CDC) and United States Department of Agriculture (USDA) requirements for storage and use of all biological select agents and toxins (BSATs). The Office of Biosurety controls and monitors access to areas where BSATs are stored and used. While biological security is not new, the application of the Biosurety Program will help establish a safe, secure, and reliable working environment for assigned personnel and visitors, and will safeguard biological assets in support of AFIP's mission.

ACCOMPLISHMENTS

In 2003, the Office of Biosurety:

1. Developed a Biosurety Plan and Standard Operating Procedures for the AFIP IAW with DoD directive 5210.ff, draft AR 50-X, and 7 CFR Part 331, 9 CFR Part 121, and 42 CFR Part 73.
2. Oversaw the installation of an inventory tracking system to monitor access and use of BSATs.
3. Integrated the Biosurety Program into the Physical Security Committee, creating a Physical Security/Biosurety Committee to advise and inform the Institute on issues of biosurety and safeguarding BSATs, and to continually monitor activities of the Biosurety Program for full compliance with all regulations and guidelines.
4. Established the AFIP's Biological Personnel Reliability Program to ensure that all personnel meet all reliability and security checks before accessing BSATs.
5. Established AFIP's import/transfer permit program to ensure that AFIP meets all regulations and guidelines set forth by the USDA and the CDC for the import and transfer of BSATs.
6. Passed a rigorous CDC inspection that led to granting of a Registration Certificate authorizing the receipt, transfer, storage, and use of BSATs as part of the AFIP Biosurety Program.

Craig T. Mallak, CDR, MC, USN
Armed Forces Medical Examiner
Date of Appointment – 12 June 2002

ARMED FORCES MEDICAL EXAMINER SYSTEM (AFMES)

STAFF

Medical

Craig T. Mallak, CDR, MC, USN, Armed Forces Medical Examiner
Elizabeth Rouse, MAJ, USAF (FS), MC, Assistant Medical Examiner
Brion C. Smith, COL, DC, USA, Chief Deputy Medical Examiner, DoD DNA Registry
James L. Caruso, FS/DMO, CDR, MC, USN, Chief Deputy Medical Examiner
(A) Stanley D. Adams, CDR, USN, Fellow
(A) Gerald F. Donovan, LCDR, MC, USNR, Deputy Chief Medical Examiner, Behavioral Science Division
(A) Susan L. Hanshaw, Lt Col, USAFR, NC, Forensic Nurse Investigator
(A) Louis N. Finelli, MAJ, MC, USA, Deputy Medical Examiner
Jerry J. Hodge, CDR, MC, USN (FS), Associate Medical Examiner
(A) Dzuy T. Nguyen, Maj, USAF, MC, Associate Medical Examiner
(A) Michael E. Smith, MAJ, MC, USA, Deputy Medical Examiner
(D) Scott E. Kornman, Maj, USAF, MC, Deputy Chief Medical Examiner
Stephen L. Robinson, CDR, MC, USN, Regional Medical Examiner (Okinawa, Japan)
Kathleen Ingwersen, LTC, MC, USA, Regional Medical Examiner (Landstuhl, Germany)
James W. Green, CAPT, MC, USN, Regional Medical Examiner (San Diego, Calif)
Eric Berg, LTC, MC, USA, Regional Medical Examiner (Ft Campbell, Ky)
(A) James Feig, Maj, USAF, MC, Regional Medical Examiner (San Antonio, Tex)
(D) Douglas Knittel, CDR, MC, USN, Regional Medical Examiner, (Portsmouth, Va)

Scientific

William C. Rodriguez III, PhD, Chief Deputy Medical Examiner, Special Investigations, Forensic Anthropology, Distinguished Scientist

Administrative

Mark Vojtecky, Lt Col, USAF, Administrator
(D) Bobbie Turner, LTJG, USN, Administrative Officer
(A) Christian Sepulveda, MSgt, USAF, Administrative Superintendent
Robert Veasey, Operational Administrator/Investigator
(D) Russell Strasser, Special Agent, OSI
(A) Phillip Curran, SA, USA, CID
Joyce White, Secretary
Carolyn Allen, BS, Administrative Assistant, ARP
(A) Adrian Russell, Administrative Assistant, Anteon
(A) Yvonne Rodgers, Administrative Assistant, Anteon
Paul A. Kerr, PHC, USN, Chief Forensic Photographer
Brenda G. Corrao, HM2, USN, Forensic Photographer
Michael Godwin, TSgt, USAF, Administrative Assistant
Tiffany D. Page, SSgt, USAF, Forensic Photographer
Lolita Lewis, PH3, USN, Forensic Photographer
(A/D) Christopher L. Williams, PH3, USN, Photographer
(A) Kimberly E. Meadows, HM2, USN, Photographer

ROLE AND FUNCTION

The department is primarily responsible for multidisciplinary forensic investigations of unnatural or violent deaths. In these cases, the AFMES must establish positive identity by scientific means, determine the cause and manner of death, and certify the death. This responsibility normally applies to members of the Armed Forces on active duty or on active duty for training, and civilians, including dependents of military members, whose deaths come under exclusive federal jurisdiction.

Deaths investigated include, but are not limited to:

- Unnatural or violent deaths from known or suspected accident, homicide, suicide, or undetermined means.
- Deaths related to the occupation or employment of the deceased and deaths of individuals enrolled in the Personnel Reliability Program.
- Deaths related to vehicular, aircraft, or vessel accidents.
- Sudden and unexpected deaths for which the cause is not readily apparent.
- Deaths potentially related to diseases that might constitute a threat to the public health.
- Deaths of individuals in the custody of law enforcement officials.
- When the commander of a Military Medical Treatment Facility where the death occurred, or the decedent's commander in the grade of 0-4 or higher, notifies the AFMES that a medicolegal investigation on a military member is necessary for reasons of US national security or for the protection of the military community.

The department reviews cases in consultation and conducts onsite medicolegal investigations, providing consultative and diagnostic services to the DoD and other federal and nonfederal agencies. In addition, when requested and approved by higher authority, these services may be extended to foreign governments.

ORGANIZATION

The Armed Forces Medical Examiner (AFME) performs the executive functions of the AFMES. Administrative and fiscal functions are provided, as well as oversight of 7 OAFME divisions, and regional and associate medical examiner functions and responsibilities under the AFMES.

1. Medicolegal Investigations and Operations (OPS) – James Caruso, CDR, MC, USN (FS). This division is responsible for day-to-day AFMES death investigation operations to support worldwide forensic consultations and onsite investigations, including aircraft accidents.

2. Education and Research – Scott Kornman, MAJ, USAF, MC and Michael E. Smith, MAJ, MC, USA. This division coordinates and facilitates all departmental education and research efforts, including fellowship and residency programs sponsored by military and civilian educational institutions.

3. Special Investigations – William C. Rodriguez III, PhD. This division is responsible for anthropological investigation and consultation for the AFMES. It also maintains the Trace Materials Analysis Laboratory to aid the AFMES in identification of materials associated with medicolegal investigations.

4. Forensic Toxicology – Aaron Jacobs, COL, MS, USA. This division provides toxicology laboratory testing and consultation for AFMES investigations and for the DoD Drug Testing Quality Assurance Program. It also provides education and research for this discipline. The division is organized into 4 branches: the DoD Drug Testing Branch; the Forensic Toxicology Branch; the Research and Education Branch; and the Quality Assurance Branch.

5. DoD DNA Registry – Brion C. Smith, COL, DC, USA. This division encompasses the Armed Forces DNA Identification Laboratory (AFDIL), which is responsible for DNA-based identification of human remains for the OAFME, and for performing consultation, education, and research in the area of forensic DNA analyses. The division also maintains the Armed Forces Repository of Specimen Samples for the Identification of Remains for the DoD.

6. Mortality Surveillance Division (MSD) – Lisa Pearse, MAJ, MC, USA of the OAFME directs this division. The primary goal of the MSD is to perform active surveillance to monitor all active duty deaths. Active surveillance is necessary to quickly identify those deaths that require autopsy by the AFMES, those that could require a public health response, or those that could be the result of a bioterrorist act. If a death has an infectious etiology, the MSD will take timely and appropriate steps to ensure that the agent or agents responsible are identified. Collected information is stored in the Medical Mortality Registry for analysis and reporting of medical cause-specific mortality data, including trends. The division has also had an opera-

tional role in tracking and trending OIF-related deaths, GWOT workload, and autopsy specimen identifications. Finally, the division produces death certificates for all fatalities autopsied by AFMES staff at Dover AFB.

7. Psychological Investigations – Gerald Donovan, LCDR, MC, USNR heads this new division. Psychological investigations are mandated under DoDI 5154.30 when there is a question as to the cause or manner of death.

IMPACT

The AFMES provided outstanding support of DoD and other federal agencies in death investigations, and made significant contributions to the mission of the AFIP in 2003. Autopsy examinations provided on missions and written consultations were invaluable in promoting real-time force protection, especially for troops deployed to Operation Iraqi Freedom. In addition, several autopsy examinations and consultations were of great value in promoting aviation safety and administration of justice. Noteworthy missions in 2003 included the following:

- Recovery, identification, and return of the Space Shuttle Columbia astronauts.
- Full forensic investigation of all 510 casualties from Operation Iraqi Freedom from March through December 2003.
- Investigation of the deaths of 30 enemy prisoners of war.
- Full forensic investigation and identification of the remains of Uday and Qusay Hussein.
- Investigation of the death of an American in the Russian theater stand-off.
- Participation in the examination of mass grave sites in Iraq, and planning for potential war crimes investigations.
- Participation in the recovery and identification of remains from the bombing of the United Nations headquarters in Iraq.
- Identification of Saddam Hussein.

Other achievements of note in 2003:

- Development of the Mortality Surveillance Division (formerly the Mortality Registry) data tracking systems, and incorporation of their mortality data into policies and plans regarding causes of death in Operation Iraqi Freedom (specifically drowning deaths).
- Investigation of ephedra use and deaths attributed to usage.
- Pneumonia deaths information.
- Opening of the new Port Mortuary facility at Dover AFB, Del. The AFMES and AFIP were integrally involved in the planning and construction of this state-of-the-art facility, which serves as the only federal Mass Disaster Forensic Investigation Center.

Special Investigation Division

The Special Investigation Division provides consultation to all military investigative agencies, as well as numerous federal agencies including the FBI, ATF, US Secret Service, and the CIA. The division conducts case work involved with overseas terrorist bombings and identification of combat detainees. We provided forensic anthropological expertise during 3 separate deployments to Iraq, which included search and recovery efforts to locate missing Gulf War pilot Capt. Speicher, identifying victims of the bombing of the UN headquarters in Baghdad, and examining mass grave sites related to war crimes in Iraq. The OAFME Ballistic Research Range played a major role in military-relevant testing and development of new generation body armor and research related to battlefield ballistic injuries. The Morgue and Laboratory facilities under the Special Investigation Division underwent major renovations, including procurement and stocking of field operation equipment for fast launch capabilities and storage of autopsy tissues from Operation Iraqi Freedom and theater combat fatalities. We purchased new laboratory equipment to assist in the examination of human remains and associated trace materials. The forensic skeletal teaching collections have increased, and now include many unique specimens.

CONSULTATION

The AFMES accessioned 1,115 diagnostic consultation cases during 2003. The majority of forensic pathology consultations were submitted by or in conjunction with the military services investigative agencies (NCIS, CID or OSI) as part of a medicolegal investigation. Other contributors included military pathologists and other federal agencies such as the Department of Justice, the FBI, and the Department of Labor. Due to operational requirements, the consultative service failed to keep pace with submitted caseload.

Regional and Associate Medical Examiners

AFME appointed (with the concurrence of the service surgeons general) Regional Medical Examiners (RME) and Associate Medical Examiners (AME), who have significantly expanded our geographic scope. The RMEs and AMEs conducted approximately 200 medicolegal investigations in 2003 under the guidance of the AFMES, which led to significant government savings in travel costs and man-hours. The RMEs and AMEs are located at Lackland AFB, Brook Army Medical Center, and Ft Hood, Tex; Ft Campbell, Ky; Ft Rucker, Ala; NMC Portsmouth, Va; NMC San Diego, Calif; Tripler ARMC, Hawaii; Landstuhl ARMC, Germany; and Camp Lester, Okinawa, Japan.

Cases	*Completed*
Military	141
Federal	38
Civilian	69
Total	248

Special Assignments

W Rodriguez:

- Chief Forensic Anthropological Consultant, State of Maryland and the District of Columbia.
- Chief Consultant, FBI Forensic Science Training Unit and Child Abduction and Serial Killer Unit.
- Codirector, Evidence Response Team Field Course: Search and Recovery of Decomposed and Skeletonized Remains Evidence Response Team, FBI National Training Academy, Quantico, Va.

In addition, OAFME staff testified as expert witnesses in several homicide trials and assault cases, and made multiple media appearances, including on national television.

Deployments

AFMES teams deployed on 109 medicolegal missions, all of which involved onsite scene investigations.

1. January 2, 2003, NNMC, Bethesda, Md, hanging death investigation, C Mallak, P Kerr, J Hodge, R Veasey.
2. January 2, 2003, Venice, Italy, death investigation, E Rouse, B Corrao.
3. January 3, 2003, NNMC, Bethesda, Md, murder investigation, S Kornman, R Strasser, T Page, J Caruso.
4. January 8, 2003, NNMC, Bethesda, Md, death investigation, E Rouse.
5. January 11, 2003, Camp Hill, Penn, suicide investigation, E Rouse, P Kerr, R Strasser.
6. January, 13, 2003, NNMC, Bethesda, Md, death investigation, S Kornman, R Strasser, M Godwin.
7. January 2003, Guantanamo Bay, Cuba, death investigation, C Mallak, R Strasser, P Kerr.
8. January 24, 2003, Wilford Hall Medical Center, Tex, death investigation, E Rouse, R Veasey.
9. January 27, 2003, Ft Bragg, NC, parachute accident investigation, S Kornman.
10. January 27, 2003, Puerto Rico, accident investigation, D Knittel, T Page.
11. February 2, 2003, Barksdale AFB, La, Space Shuttle investigation, C Mallak, W Rodriguez, J Caruso, J Hodge, S Kornman, P Kerr, T Page, R Veasey, R Strasser, B Corrao.
12. February 2003, Roosevelt Roads, PR, death investigation, J Feig.
13. February 14, 2003, Colombia, SA, death investigation, E Rouse, R Veasey, P Kerr, E Childers.
14. February 19, 2003, Travis AFB, Calif, death investigation, S Kornman, B Corrao.
15. March 3, 2003, Scott AFB, Calif, infant death investigation, S Kornman T Page.
16. March 2003, Philippines, missionary death investigation, S Kornman, J Hodge, M Godwin.
17. March 10, 2003, Cheyenne, Wyo, natural death investigation, J Feig.
18. March 13, 2003, Dove AFB, Dover, Del, Black Hawk helicopter accident investigation, S Kornman, J Feig, D Nguyen, M Labovich.
19. March 19, 2003, Randolph AFB, Tex, T-38 crash investigation, J Feig.
20. March 2003, Ft Knox, Ky, infant death investigation, E Berg.

21. March 23, 2003, Andrews AFB, Md, suicide investigation, E Rouse, M Godwin.
22. March 28, 2003 (ongoing), Dover Port Mortuary, Dover, Del, War Missions.
23. March 24, 2003, Knoxville, Tenn, overdose investigation, E Berg.
24. March 2003, Bogota, Colombia, death investigation, E Rouse.
25. March 2003, Afghanistan, death investigation, E Rouse.
26. March 31, 2003, Cuba, natural death investigation, Dr. Wade, B Corrao.
27. March 2003, Dover Port Mortuary, Dover, Del, Special Forces.
28. April 6, 2003, remains investigation, W Rodriguez.
29. April 14, 2003, Puerto Rico, child death investigation, J Feig.
30. April 14, 2003, NNMC, Bethesda, Md, accident investigation, E Rouse.
31. April 2003, Bahrain, death investigation.
32. April 28, 2003, Ft Benning, Ga, death investigation, J Feig.
33. April 29, 2003, Ft Benning, Ga, death investigation, J Feig.
34. May 21, 2003, Ft Benning, Ga, investigation of training death, E Berg.
35. May 23, 2003, Dover Port Mortuary, Dover, Del, Saudi Arabia bombing, E Rouse, J Caruso, M Labovich, K Harshbarger, R Veasey, E Childers, M Godwin, B Corrao.
36. May 29, 2003, Ft Dix, NJ, death investigation, E Berg.
37. May 30, 2003, Dover Port Mortuary, Dover, Del, civilian death investigation.
38. May 31, 2003, Lafayette, La, infant homicide investigation, J Feig.
39. June 5, 2003, NNMC, Bethesda, Md, death investigation, E Rouse, W Rodriguez, R Veasey, SA Sentell, P Kerr, K Torske.
40. June 9, 2003, La Paz, Bolivia, training accident investigation, C Mallak, E Childers, R Veasey, P Kerr.
41. June 10, 2003, Dover Port Mortuary, Dover, Del, motor vehicle accident investigation.
42. June 16, 2003, Kosovo, Apache helicopter crash investigation.
43. June 16, 2003, Iceland.
44. June 16, 2003, Iraq, detainee death investigation, E Rouse, T Page.
45. June 25, 2003, Africa, death investigation, D Nguyen, P Kerr.
46. June 2003, Andrews AFB, death investigation, E Rouse, T Page, R Strasser.
47. June 30, 2003, Afghanistan, death investigation, Dover Special Forces.
48. June 30, 2003, Ft Knox, Ky, accident investigation, E Berg.
49. July 15, 2003, Dover Port Mortuary, Dover, Del, E Rouse, T Page, R Veasey.
50. July 17, 2003, Italy, MH-53E crash investigation, E Rouse, P Kerr, J Caruso.
51. July 24, 2003, Baghdad, Iraq, death investigation, C Mallak, M Smith, L Finelli, P Kerr, R Veasey.
52. July 24, 2004, Dover Port Mortuary, Dover, Del, GITMO case, E Rouse, R Strasser, T Page.
53. July 24, 2003, Ft Benning, Ga, child death investigation, J Feig.
54. July 30, 2003, Dover Port Mortuary, Dover, Del, motor vehicle accident investigation, E Rouse, D Nguyen, M Godwin, R Veasey.
55. August 2003, West Point, NY, death investigation, D Nguyen, P Kerr, T Page.
56. August 10, 2003, Andrews AFB, suicide investigation, D Nguyen, P Kerr.
57. August 13, 2003, New Hampshire, death investigation, E Rouse, M Godwin.
58. August 2003, Baghdad, death investigation, E Rouse, T Page.
59. August 19, 2003, death investigation, D Nguyen, M Godwin.
60. August 21, 2003, Dover Port Mortuary, Dover, Del, L Finelli, R Veasey, M Godwin.
61. August 2003, West Point, NY, death investigation, D Nguyen, M Godwin.
62. August 23, 2003, Dover Port Mortuary, Dover, Del, death investigation.
63. August 26, 2003, Dover Port Mortuary, Dover, Del, UN death investigation.
64. August 29, 2003, Ft Polk, La, D Nguyen, L Finelli, T Page.
65. September 2003, Dover Port Mortuary, Dover, Del, E Rouse, S Hanshaw, M Godwin.
66. September 9, 2003, WRAMC, Washington, DC, D Nguyen, M Godwin.
67. September 12, 2003 Whiteman AFB, Mo, death investigation, E Rouse, M Godwin.
68. September 15, 2003, death investigation, D Nguyen, P Kerr, L Lewis.
69. September 21, 2003, death investigation, J Caruso, L Lewis.
70. October 1, 2003, Dover Port Mortuary, Dover, Del, J Caruso, M Godwin.
71. October 2, 2003, WRAMC, Washington, DC, death investigation, B Smith, C Williams.
72. October 3, 2003, South Carolina, death investigation, B Smith, L Lewis.

73. October 4, 2003, Ft Riley, suicide investigation, E Berg, T Page.
74. October 9, 2003, Dover Port Mortuary, Dover, Del, death investigation.
75. October 9, 2003, Ft Stewart, Ga, natural death investigation, J Hodge, P Kerr.
76. October 13, 2003, Ft Stewart, Ga, motor vehicle accident investigation, B Smith, P Kerr.
77. October 17, 2003, Gaza Strip, death investigation, L Finelli, B Smith.
78. October 22, 2003, Camp Lejeune, NC, infant death investigation, E Rouse, P Kerr.
79. October 22, 2003, Ft Bragg, NC, death investigation, J Hodge.
80. October 23, 2003, Ft Polk, La, death investigation, J Feig.
81. October 24, 2003, Ft Polk, La, death investigation, J Feig.
82. October 27, 2003, New Orleans, La, death investigation, B Smith, T Page.
83. October 28, 2003, Ft Sill, Okla, death investigation, W Rodriguez, SA Carson.
84. October 30, 2003, Hawaii, death investigation, J Hodge.
85. November 2, 2003, Dover Port Mortuary, Dover, Del, death investigation.
86. November 3, 2003, Ft Bragg, NC, suicide investigation, B Smith.
87. November 4, 2003, Ft Sill, Okla, training death investigation, J Feig.
88. November, 2003, Camp Lejeune, NC, suicide investigation, B Smith.
89. November 5, 2003, Baghdad, death investigation, J Hodge, T Page.
90. November 10, 2003, Ft Polk, La, death investigation, J Caruso, M Godwin.
91. November 13, 2003, Ft Benning, Ga, death investigation, J Caruso.
92. November 13, 2003, WRAMC, Washington, DC, death investigation, L Finelli.
93. November 18, 2003, Ft Knox, Ky, death investigation, E Berg.
94. November 2003, Dover Port Mortuary, Dover, Del, suicide investigation.
95. November 30, 2003, Dover Port Mortuary, Dover, Del, E Rouse, T Page.
96. November 30, 2003, Dover Port Mortuary, Dover, Del, death investigation, D Nguyen.
97. November 30, 2003, Baghdad, death investigation, B Smith, M Godwin, P Curran.
98. November 30, 2003, Dover Port Mortuary, Dover, Del, death investigation, W Rodriguez, J Hodge, P Kerr, R Veasey.
99. November 30, 2003, Camp Lejeune, NC, motor vehicle accident investigation, J Caruso, L Lewis.
100. December 1, 2003, NNMC, Bethesda, Md, death investigation, E Rouse.
101. December 2, 2003, Ft Bragg, NC, suicide death investigation, J Caruso, L Lewis.
102. December 3, 2003, VA Hospital, Columbia, SC, death investigation, J Hodge, P Kerr.
103. December 9, 2003, Ft Leonard Wood, death investigation, E Berg.
104. December 2003, Ft Benning, Ga, death investigation, D Nguyen, M Godwin.
105. December 2003, Charleston, SC, death investigation, J Hodge.
106. December 11, 2003, Scott AFB, Ill, suicide investigation, B Smith.
107. December 20, 2003, Kansas City, Mo, suicide/homicide investigation, J Caruso, P Kerr.
108. December 26, 2003, WRAMC, Washington, DC, death investigation, B Smith, L Lewis.
109. December 27, 2003, Dover Port Mortuary, Dover, Del, death investigation, P Curran.

EDUCATION

Courses

OAFME staff conducted the Basic Forensic Pathology course in November 2003, which had 103 attendees.

Exhibits

OAFME designed and manned 3 exhibits at the American Academy of Forensic Sciences, the Aerospace Medical Association, and the Association of Military Surgeons of the United States.

Trainees

Two fellows completed the 1-year AFIP Forensic Pathology Residency and another commenced the residency in 2003. Seven military services investigative agents completed the AFIP Fellowship Program while attaining their Master of Forensic Sciences degrees in 2003. Approximately 365 trainee-days were accomplished by this group at AFIP. This program greatly benefits our medicolegal investigative efforts worldwide, in that these special agents then serve as forensic specialists and coordinators throughout the world.

Faculty Appointments

1. Course Director, Basic Forensic Pathology, AFIP, S Kornman.

2. Adjunct Faculty and Course Director, Principles of Forensic Pathology, George Washington University/AFIP Master of Forensic Sciences Program, S Kornman.
3. Adjunct Professor, Department of Forensic Sciences, George Washington University, W Rodriguez.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

PROFESSIONAL ACTIVITIES

Awards

Dr. Rodriguez earned a Superior Civilian Service Award for service during the NASA Space Shuttle Mission and Operation Iraqi Freedom.

Collaborators

OAFME works closely with the Military Services Safety Centers in aircraft accident investigations, safety issues, and educational endeavors for their respective aeromedical communities. We also provide aviation pathology training to the Canadian aeromedical community.

Manuscripts Reviewed

Members of the department reviewed 8 articles for the *American Journal of Forensic Medicine and Pathology*.

Editorial Boards

W Rodriquez:

1. *American Journal of Forensic Medicine and Pathology*
2. *Journal of Forensic Sciences*

Brion C. Smith, COL, DC, USA
Chief Deputy Medical Examiner
Director, Department of Defense DNA Registry

DoD DNA REGISTRY OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

ARMED FORCES MEDICAL EXAMINER SYSTEM

STAFF

Administrative

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Lisa M. Gallman, Administrative Assistant (ARP)
Krystal N. Harris, Administrative Assistant (ARP)
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(A) Aaron Waldner, Deputy Chief Information Officer (ARP)
(D) Manuel Aniebonim, PhD, LIMS Project Manager (FTI)
Richard Coughlin, Network Administrator (FTI)
Vinh Lam, Project Manager (FTI)
Jon Norris, Software Developer (FTI)
David Bergman, Software Developer (FTI)
Vassilev Dobromir, Software Developer (FTI)
Svetlana Cheshmedjieva, Software Developer (FTI)
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Office of Resource and Contract Management

Kevin S. Carroll, CLS(NCA), Resource/Contracts Manager (GS)
Marjorie Q. Bland, BS, DNA Program Coordinator (GS)
Mauricio Rivera, Resource Management Specialist (ARP)
Jeanette Ransom, Secretary (GS)

AFDIL Mitochondrial DNA Section

Suzanne M. Barritt, MS, Technical Leader (ARP)
Marina M. Bruner, BS, Casework Administrator (ARP)
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Amanda Coute (Blanchard), MS, Assistant Technical Leader (ARP)
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(D) Laura Cannon, MFS, DNA Analyst (ARP)
(D) Gregory N. Smith, MFS, DNA Analyst I (ARP)
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(D) Nissa Abbasi, BS, Analyst (ARP)
(D) Stephen D. Gresko, BS, Technician (ARP)
(A) Melissa M. Chila, DNA Technician (ARP)
(D) Jill E. Appleby, BS, Technician (ARP)
(D) Carter A. Cromartie, BS, Technician (ARP)
Craig W. King, BS, DNA Analyst (ARP)
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Heather A. Thew, MS, DNA Analyst (ARP)
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Kerry L. Maynard, BS, DNA Technician (ARP)
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(A) Jenna D. Farsetta, BS, DNA Technician (ARP)
(A) Kelley C. Wilson, BS, DNA Technician (ARP)
(D) Megan Tiemann, BA, Technician (ARP)
Danielle E. Goldstein, BSBA, Evidence Custodian (ARP)
(A) Tara M. Taflambas, BS, DNA Tech/Evidence Custodian (ARP)
Amie L. Benson, BS, PT Lab Assistant (ARP)

Nuclear DNA and AFDIL^{cs}

Demris A. Lee, MSFS, Technical Leader (ARP)
(D) Susan Jones, PhD, OAFME DNA Analyst II (ARP)
Patricia Loudon, PhD, OAFME Analyst I (ARP)
James M. DiFrancesco, MFS, OAFME DNA Analyst I (ARP)
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Deborah K. Haller, MS, AFDIL^{cs}, DNA Analyst III (ARP)
Robert M. Fisher, MFS, AFDIL^{cs}, DNA Analyst II (ARP)

AFDIL Training, Education and Special Projects

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Gina M. Sola, MFS, DNA Analyst (ARP)
Susan E. Welti, MFS, DNA Analyst (ARP)
Richon E. Tate, BS, DNA Analyst (ARP)
(A) Brad D. Ackerman, BS, DNA Technician (ARP)
(A) Erica L. Chatfield, BS, DNA Technician (ARP)
(A) Jessica R. Charak, MFS, Evidence Custodian Technician (ARP)
(A) Mara M. Sommer, BS, DNA Database Assistant (ARP)
(A) Ryan M. Gajewski, BS, DNA Database Assistant (ARP)

Validation Projects and Quality Control Team

Timothy McMahon, PhD, Validation Project Coordinator (ARP)
Ethny Obas, MT, Senior QC DNA Technician (ARP)
(D) Jennifer F. Banaag, MFS, DNA QC Technician (ARP)
(D) Whitney E. Dimling, BS, DNA QC Technician (ARP)
(A) Angela N. White, MFS, DNA QC Technician (ARP)
(A) Courtney L. Vito, BS, DNA QC Technician (ARP)
(A) Jarrett N. Roth, BS, DNA QC Technician (ARP)
Sean Oliver, MS, DNA Validation/QC Technician (ARP)

AFDIL Research Section

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(A) Jessica L Saunier, DNA Technician (NIJ)
Rebecca E. Just (Hamm), DNA Research Technologist (ARP)

Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR)

David Boyer, MFS, Director of Operations (GS)
Jackie Graham, BS, Repository Supervisor (ARP)
Herbert Simms, Inventory Management Specialist (GS)
Tonya Summers, Administrative Assistant (ARP)
Amanda Solares, Senior QC Technician (ARP)
Marie Reese, QC Technician (ARP)
George Galapon, Sr Specimen Processor (ARP)
Mariafe Vance, Sr Specimen Processor (ARP)
Gloria Lindmark, Sr Specimen Processor (ARP)
Arvin Solis, Sr Specimen Processor (ARP)
Diane Giampetroni, Sr Specimen Processor (ARP)
Ernie Costes, Specimen Processor (ARP)
Steven Thompson, Specimen Processor (ARP)
Michael Rhoades, Specimen Processor (ARP)
Al Lambert, Network Administrator (EDS)
Rene Malones, Network Administrator (FTI)
Dat D. Nguyen, Network Administrator (EDS)

IMPACT

The DoD DNA Registry is a division of the Armed Forces Medical Examiner System (AFMES), and an operational element of the AFIP. The Office of the Surgeon General (OTSG) provides Army Executive Agency. The Registry has 2 subordinate branches, the Armed Forces DNA Identification Laboratory (AFDIL) and the Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR). The Registry is charged with the missions of DNA identification of human remains, information technology development, mass fatality management, and DNA reference specimen collection, archival, storage, and retrieval services for the DoD. In addition to routine AFMES casework, the Registry maintains a 3-person Outside Casework and Mass Fatality Contingency Section that performs reimbursable casework for other federal and nonfederal clients until they are required for large-scale DoD missions. This core mission is funded through the Defense Health Program (DHP). DHP funding levels have been static over the last 4 fiscal years, resulting in a net decrease of approximately 12%, while the demand for DoD forensic DNA casework and reference card collections continues to grow annually, particularly in relation to Operations Enduring Freedom and Iraqi Freedom.

The Joint POW/MIA Accounting Command (JPAC) is a field-operating agency of the United States Pacific Command (PACOM). JPAC is the lead organization in the search, recovery, and identification of US service members missing from prior military conflicts. Although JPAC meets most mission requirements with internal assets (forensic anthropology, odontology, data analysis, recovery teams), it has become increasingly reliant upon the use of mitochondrial DNA (mtDNA). In 2003, AFDIL required mtDNA support for more than 60% of their casework. As the recognized world leader in this technology, AFDIL has provided DNA support to JPAC since 1994, when the US Army G-1, the executive agency for JPAC's predecessor, the Central Identification Laboratory, Hawaii (CILHI), first requested it. The G-1 continues to fund AFDIL for the costs of these DNA services and a 5-year Memorandum of Agreement (MOA) between the US OTSG for AFIP, the Human Resources Command (HRC), and JPAC is expected to be signed in 2004, ensuring continuity of support. Funding for this ancIllary support to JPAC has been inconsistent at times, but has generally increased over the last 4 years.

One hundred percent of the DNA Division's casework and research is directly applicable to the support of the DoD mission. Non-DoD casework is performed only with specific authorization from OTSG and only on the basis of full reimbursement.

CONSULTATION (MACPATH)

Cases	*Completed*
Military	876
Army (511)	
Navy (12)	
Air Force (353)	
Federal	23
OFA (23)	
Civilian	147
AFIP	1,568
Total	2,614

DoD DNA REGISTRY OFFICE OF RESOURCE AND CONTRACT MANAGEMENT (ORCM)

The ORCM is composed of a core group of US government employees. As such, this office is responsible for all activities that are considered governmental, including processing and procuring all laboratory requests for reagents, supplies, equipment, maintenance services, facility management activities, travel requests, and MOA processing, monitoring, and execution. Other activities include human resource (HR) functions, budget formulation, execution, monitoring and reporting, inventory and supply stock management, equipment inventory and accountability, and contracts management, including the increasingly critical contracts for IT services.

In 2003, department activities included the following:

1. Managed the renovation of space required for the Special Projects Branch, designated and fully funded to support classified databasing for the US government.

2. Managed individual contracts including:

ARP Personnel Services	$6,500K
American Biomedical Group, Inc.	$ 95K
Medical Equipment Maintenance Co.	$ 50K
RASCo. Reagent Grade Water	$ 15K
Pipette Calibrations	$ 35K
Future Technologies, Inc.	$1,200K

3. Appropriations management and execution:

Defense Health Program (DHP)	$3,996K
Operations and Maintenance, Army (OMA)	$7,600K

4. IMPAC credit card program:

Appropriations	#Demands	#Line Items	Total
DHP	154	245	$333K
OMA	247	348	$863K

5. Routine purchase requests:

Appropriations	#Demands	#Line Items	Total
DHP	33	70	$1,696K
OMA	33	101	$ 604K

6. Laboratory Integrated Delivery System (LIDS):

Appropriations	#Demands	#Line Items	Total
DHP	16	111	$145K
OMA	19	96	$106K

7. Administered and managed IT services contracts for software development, network support, and database management.

8. Directed the development, testing, and deployment of the DNA Registry Inventory Management Systems (DRIMS), a comprehensive module within the Laboratory Information Systems Application (LISA) operating system of the Laboratory Information Management System (LIMS). This program allows for the automated scheduling of laboratory replenishment, equipment failure notification, comprehensive manufacturer, supply, and distribution information collection, and other integrated inventory management functions. Automated order processing functions were added in 2003, allowing for immediate electronic procurement of required supplies and services. Transition to paperless inventory management is slated for 2004.

9. Managed the DNA contract line item numbers (CLIN) of the Personnel Services contract with ARP. These CLINs represent approximately 100 administrative, managerial, scientific, and technical positions at AFDIL and AFRSSIR.

10. Developed the comprehensive obligation plan for requested and fully funded special projects to support the war on terror, including procurement of personnel, supplies, space, equipment, and laboratory reagents for processing over 5,000 specimens received in support of mission.

ARMED FORCES DNA IDENTIFICATION LABORATORY (AFDIL)

MITOCHONDRIAL DNA SECTION

Although 2003 was a challenging year, with a 35% turnover of employees, the mtDNA Section of AFDIL reported 639 specimens for 2003, a 43% increase over 2002. In support of the Family Outreach Program, 1,491 family reference specimens were reported for 2003. The mtDNA Section also assisted in the identification of nearly 70 service members, and their laboratory work provided the genetic leads to dozens of other investigations. Five AFDIL scientists traveled to various US cities to present the DNA portion of the identifications to family members.

Highlights of 2003 included collaborations with external agencies on special projects, such as the Civil War submarine, the Confederate States Ship Hunley, and the Revolutionary War heroine Jane McCrea. To meet the 2004 goal of completing 750 casework specimens, a sixth casework team was created. In addition, high-throughput equipment such as the ABI3100 Genetic Analyzer and the Tecan Genesis 200 Robotic Sample Processor were validated to meet the 2004 goal of 1,500 reference specimens and to further streamline processing of all sample types.

AFDIL and JPAC CIL participated in numerous joint activities in 2003. Three AFDIL scientists independently visited JPAC CIL for a week at a time in Hawaii to work side-by-side with their highly experienced anthropologists and odontologists. One visit included an observation of bone cutting to fulfIll JPAC CIL's QC requirements. Three JPAC CIL scientists visited AFDIL and one JPAC CIL scientist participated in AFDIL's international training course offered in May of 2003.

Unfortunately, the Joint AFDIL-JPAC CIL Symposium, normally sponsored by the DoD DNA Registry at the annual meeting of the American Academy of Forensic Sciences, was cancelled for 2003 due to funding concerns. However, other activities continue to foster positive interaction between AFDIL and JPAC CIL.

NUCLEAR DNA SECTION

The AFMES Nuclear DNA (nucDNA) Section processed more than 1,200 samples, leading to the identification of military personnel from recent death investigations. The majority of specimens received were directly related to military mishaps from Operation Enduring Freedom and Operation Iraqi Freedom. The nucDNA Section also assisted the AFMES in identifying all 7 astronauts from the Columbia Shuttle incident.

In 2003, the AFDIL Consultative Services (AFDIL^{CS}) Section introduced the ability to process samples via Y-chromosome DNA testing (male-specific paternal inheritance testing) in addition to autosomal short tandem repeats (STRs) and mtDNA analysis. In 2003, AFDIL^{CS} received 38

cases for DNA processing. Of those received, 140 samples were processed for autosomal STRs, 33 samples were process for Y-STRs, and 55 samples were processed for mtDNA analysis.

AFDIL provided instruction for 2 semester offerings of the graduate Forensic DNA Profiling course through The George Washington University. AFDIL also negotiated for the services of 12 no-cost interns from various universities and agencies, including Marshall University, Michigan State University, Ohio Northern University, Pace University, West Chester University, West Virginia University, District of Columbia Office of the Chief Medical Examiner, Virginia Division of Forensic Sciences, University of Poitiers (France), and the University of Sarajevo/Institute for Genetic Engineering and Biotechnology (Bosnia and Herzegovina).

In February 2003, AFDIL hosted 5 visiting scientists from the Israeli Police Division of Identification and Forensic Science on behalf of the Department of State Diplomatic Security Service.

In May 2003, AFDIL sponsored the annual international training course in "Extraction of DNA from Aged Skeletal Remains and Forensic Mitochondrial DNA Sequence Analysis," attended by individuals from Hawaii, New York, Ohio, Pennsylvania, Canada, Holland, New Zealand, and Uzbekistan.

In 2003, AFDIL expanded its DNA database project that provides services to federal government agencies. Using non-DHP funding, AFDIL acquired 7 scientists to perform nuclear and mtDNA analyses using an automated DNA testing platform.

The validation section finished its second year at AFDIL and brought several new reaction chemistries online and optimized current standard operating procedures. For the mtDNA Section, several new primers were developed and validated as alternative amplification primers, which improved the amplification and sequencing efficiency of primer sets and miniprimer sets. To further aid with mitochondrial databasing, AFDIL validated an automated system for the amplification purification and cycle sequencing of mtDNA Family Reference samples utilizing the Tecan Genesis Robotic Sampler Processor. The Tecan is designed to increase specimen throughput by deceasing the number of man-hours from 12.5 to 4. In addition, the Applied Biosystems 3100 Genetic Analyzer, a 16 capillary electrophoresis apparatus capable of both DNA sequencing and fragment analysis, is currently being validated for implementation in mitochondrial casework using a novel optimized sequencing strategy.

For the nucDNA Section, 2 new STR systems were validated and implemented for use in either casework or databasing. The first was Reliagene's Y-Plex 6 kit, which is a male-specific STR kit that amplifies a set of core loci found within the nonrecombining region of the Y chromosome. The second was Promega's PowerPlex 16 kit, which amplifies 16 STR loci (the 13 core CODIS Loci, plus Penta D and E and Amelogenin for sex determination) in a single reaction. PowerPlex 16 is currently validated for database samples and will be implemented into casework in the first quarter of 2004. In addition, 2 CAS-1200 PCR Liquid Handling Systems, as well as 2 3100 Genetic Analyzers, were validated for use in STR database projects. The CAS-1200 is a robotic system designed to increase specimen throughput by allowing for the reproducible amplification of 96 samples at a time. Coupled with the CAS-1200 validation, a second Qiagen 9604 BioRobot was validated for extraction purposes. These automated additions for database samples have increased specimen throughput by significantly decreasing man-hours, allowing the analyst more time for data analysis, the bottleneck of any database project.

RESEARCH SECTION

2003 marked a productive period for the AFDIL Research Section in its missions of technical development, genetic system characterization, genetic data analysis, and scientific communication. These activities support AFDIL's current and future capabilities in DNA analysis and human remains identification.

The Research Section is committed to keeping AFDIL at the forefront of DNA testing capabilities in the face of rapidly developing technologies, and to addressing, with basic research, the most significant issues confronting the forensic science community as they relate to the AFDIL mission.

Principal Research Projects

1. A long-term project funded by the National Institute of Justice (NIJ) to survey the mtDNA genome of many individuals for novel, highly informative SNP sites, develop multiplex SNP assays, validate the SNP assays, and establish reference population databases. Two manu-

scripts were submitted (and accepted in early 2004) describing a novel set of 59 mtDNA SNP sites of high forensic utility, and an optimized multiplex assay that powerfully resolves the most common Caucasian HV1/HV2 type. The latter includes extensive optimization validation testing on a range of degraded samples, demonstrating the suitability of the assay for practical casework applications. Much progress was made on optimization of 5 other multiplex panels. High-throughput population databasing protocols for SNP panels were developed, and reference population databases were begun for this new system.

In September 2003, we received an additional 2 years of funding from the NIJ to extend the whole genome sequencing and SNP development to African-American and Hispanic populations. With that aim, 45 African-American complete mtDNA genomes have been sequenced.

2. A high-throughput system for databasing mtDNA control regions was established, integrating fully robotic laboratory operations (extraction, amplification, cycle sequencing, and purification) with efficient DNA analysis and bioinformatic data handling and curation. By the end of the year, the equivalent of 2.5 FTEs were producing 325 control region sequences a month, and completed databases from Hungary, Cyprus, and Uzbekistan. Based on the capabilities of this system, we were able to attract $600,000 of outside federal money for mtDNA population databasing for 2004-2005.

3. A quantitative PCR system targeting highly repetitive Alu sequences was developed and shown to work well for degraded casework extracts. Validation and implementation of this system in 2004 will significantly improve casework capabilities in DNA quantitation.

4. A broad series of experiments explored extraction modifications and additives for the improvement of DNA recovery from highly degraded samples, and the ability to recover nuclear STRs from degraded skeletal remains (low copy number—LCN— STR typing). Thousands of amplifications involving scores of extraction conditions resulted in full profiles from ~70% of specimens examined. This work has paved the way for directed efforts for validation of modified extraction protocols and LCN typing in 2004.

The Research Section continued to cultivate very productive collaborations with various outside laboratories, including the Institute of Legal Medicine, Innsbruck, Austria, the National Institute of Standards and Technology, the University of Central Florida, Marligen Biosciences, and Massey University, New Zealand. The Research Section frequently consulted with JPAC CIL on interpretation of mtDNA matching data in difficult or complex cases, and coordinated extensively with JPAC CIL on new directions for DNA testing for the identification of unknowns from prior American conflicts.

The Research Section has played an important role in maintaining strong connections between AFDIL and the larger forensic and academic research communities. The section has presented research results at many local and international conferences, often as invited contributors. AFDIL's Chief Scientist, Thomas J. Parsons, PhD, was invited to organize and present a breakout symposium on new developments in mtDNA testing at the 13th International Symposium on Human Identification. Additionally, Dr. Parsons has been very active in consultation with the NIJ and the New York City Office of the Chief Medical Examiner regarding DNA identification efforts from the World Trade Center (WTC) attack. He is a standing member of the WTC Kinship and Data Analysis Panel, which has met bimonthly since the attacks of 9/11. Dr. Parsons, along with AFDIL's Chief mtDNA Technical Leader, Suzanne Barritt, and COL Brion Smith, is on the Scientific Advisory Board of the International Commission on Missing Persons, currently working for the recovery, identification, and repatriation of the victims of atrocities committed in the former Yugoslavia.

THE ARMED FORCES REPOSITORY OF SPECIMEN SAMPLES FOR THE IDENTIFICATION OF REMAINS (AFRSSIR)

In 2003, AFRSSIR accessioned 286,382 DNA reference specimens from 1,554 separate collection sites (Army (899), Air Force (219), Navy (333), Marine Corps (50), Coast Guard (53)). The Director of Repository Operations and Repository Supervisor conducted collection site visits at 9 facilities to provide information briefings and evaluate collection compliance. With the support of the OTSG, collection site visits were converted to a formal inspection with written findings provided to the inspected operation and OTSG.

Accessioned DNA reference specimen inventory at the end of the year totaled 4,194,375.

The military has collected specimens from approximately 96% of their current population, up 4% over the previous year. In the past year the repository processed 9 donor requests for

destruction of donor DNA samples and 24 requests for release of specimens.

The repository released 637 DNA specimens to AFDIL for human remains identification. This significant increase in Repository use was a result of Operation Iraqi Freedom (OIF). There were 447 DNA specimens released for testing for identification of OIF casualties. Nine OIF casualties did not have DNA specimens on file.

The Director of Repository Operations conducted 9 presentations with more than 1,000 total attendees regarding DNA Repository operations, DNA identification in mass fatality incidents, and DNA identification of skeletal remains.

Presentations

1. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "The Gander disaster: dental identification in a military tragedy," RB Brannon, WM Morlang, BC Smith.
2. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "Validation of the Qiagen BioRobot 9604 for the extraction of DNA from buccal swabs," J DiFrancesco, J Banaag, D Lee, T Anderson, B Smith.
3. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "A DNA paternity case involving a two-week old fetus," KB Murga, E Suarez, DA Lee, JJ Canik, BC Smith.
4. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "The bombing of the USS Cole: the role of DNA in sending seventeen heroes home," KB Murga, DA Lee, RM Fisher, SW Jones, TD Anderson, JM Willard, WC Rodriguez, JJ Canik, BC Smith, A Marzouk.
5. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "Terror in the skies after the World Trade Towers: the identification and reassociation of remains from the Pentagon and Somerset plane crashes," KB Murga, DA Lee, JJ Canik, BC Smith.
6. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "Optimization of alternative mini-primers for the amplification of ancient mtDNA," SC Schroeder, TP McMahon, JA Thomas, BC Smith, SM Barritt.
7. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "The role of DNA in mass fatality identification, the Disaster Mortuary Operational Response Team (DMORT) model for managing mass fatality incidents," DA Boyer.
8. February 2003: Chicago, Ill, 55th Annual Meeting of the American Academy of Forensic Sciences, "The DNA perspective, multidisciplinary symposium on the uses of forensic science," DA Boyer.
9. February 2003: Chicago, Ill, Annual Meeting of the American Society of Forensic Odontology, "DNA identification – United Airlines Flight #93," DA Boyer.
10. March 2003: Washington, DC, University of the District of Columbia, Criminal Justice Course, "The application of DNA analysis in the criminal justice system," DA Boyer.
11. March 2003: Reno, Nev, Annual National Disaster Medical System, "The role of DNA identification in mass fatality incidents," DA Boyer.
12. April 2003: Morgantown, WV, Disaster Mortuary Operational Response Team Region III, "DNA identification in mass fatality incidents," DA Boyer.
13. May 2003: Washington, DC, AFIP 16th Annual Forensic Anthropology Course, "DNA identification of skeletal remains," DA Boyer.
14. May 2003: Hawkes Caye, Fla, Advanced DNA Technical Workshop, Bode Technologies, "Increasing forensic discrimination of mtDNA: variation outside of HV1/HV2," TJ Parsons.
15. June 2003: Washington, DC, National Institute of Justice DNA Grantees Workshop, "Increasing forensic discrimination of mtDNA: SNP assays for polymorphisms outside of HV1/HV2," TJ Parsons, MD Coble, R Hamm, J O'Callaghan, I Letmanyi, C Harvey, J Irwin.
17. July 2003: Portland, Ore, Disaster Mortuary Operational Response Team Region X, "DNA identification in mass fatality incidents," DA Boyer.
18. July 2003: Austin, Tex, Disaster Mortuary Operational Response Team Region IV and VI, "DNA identification in mass fatality incidents," DA Boyer.
19. September 2003: Zagreb, Croatia, 3rd European-American School in Forensic Genetics, "Improved processing of ancient skeletal remains for mtDNA analysis," SM Barritt.
20. September 2003: Istanbul, Turkey, 3rd European Academy of Forensic Science Meeting, "Forensic SNP testing in the mtDNA genome," T Parsons, M Coble, R Hamm, J O'Callaghan, S Barritt, P Vallone, J Butler, A Brandstaetter, H Niederstaetter, W Parson.

21. September 2003: Arcachon, France, 20th International Congress of the International Society of Forensic Genetics, "mtDNA coding region SNPs for rapid screening and haplogroup identification of forensic samples," A Brandstatter, TJ Parsons, W Parson.
22. September 2003: Zagreb, Croatia, 3rd European-American Intensive Course in Clinical and Forensic Genetics, "Multiplex SNP assays for increased discrimination in forensic mtDNA testing," RS Hamm, MD Coble, PM Vallone, JE O'Callaghan, JL Saunier, IH Letmanyi, CT Peterson, JA Irwin, JM Butler, TJ Parsons.
23. September/October 2003: Phoenix, Ariz, Promega 14th International Symposium on Human Identification, "Development of an improved method for the recovery and typing of nuclear DNA from highly degraded bones," JA Irwin, L Hodge, TJ Parsons.
24. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Reanalysis of the necessity to process non-criminalistic casework controls that are below the Armed Forces DNA Identification Laboratory's detection threshold as recommended by SWGDAM guidelines," CM Ernst, CW Los, SM Barritt, BC Smith, TP McMahon.
25. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Validation and optimization of Reliagene's Y-Plex' 6 kit for processing nuclear case samples at the Armed Forces DNA Identification Laboratory," J DiFrancesco, JE O'Callaghan, W Dimling, S Jones, K Murga, DA Lee, BC Smith, TP McMahon.
26. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Modifications to cycle sequencing purification protocols to alleviate the need for resequencing of mtDNA on the ABI3100 capillary electrophoresis platform," SC Schroeder, SM Barritt, BC Smith, TP McMahon.
27. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Validation of the Tecan Genesis robotic sample processor for automated cycle sequencing of mtDNA database samples," RE Tate, N Abbassi, A Coute, TP McMahon, J Irwin, SM Barritt, BC Smith, TJ Parsons.
28. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Optimization of mtDNA control region sequencing using a 3100" Genetic Analyzer 50cm array and full and half reaction BigDye" version 1.0," R Vachon, SM Barritt, BC Smith, TP McMahon.
29. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Validation of bone bleaching and sonication for cleaning skeletal material prior to extraction," J Weart, K Wojcik, R Edelheit, SM Barritt, BC Smith, TP McMahon.
30. October 2003: Phoenix, Ariz, Promega 14th Annual Symposium on Human Identification, "Validation and optimization of the ABI3100 Genetic Analyzer and BigDye version 1.1 for processing mitochondrial DNA case samples at the Armed Forces DNA Identification Laboratory," TP McMahon, SC Schroeder, SM Barritt, BC Smith.

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Official Trips

1. January 17-19, 2003, DMPO Family Update, San Francisco, Calif.
2. January13-15, 2003, Scientific Working Group for DNA Analytical Methods (SWGDAM) Meeting, Quantico, Va.
3. February 17-22, 2003, American Academy of Forensic Sciences (AAFS), Chicago, Ill.
4. February 21-23, 2003, DPMO Family Update, Birmingham, Ala.
5. January 21-24, 2003, DPMO Strategic Conference, Arlington, Va.
6. March 21-26, 2003, DPMO Family Update and Casualty Conference, Houston, Tex.
7. March 23-30, 2003, 50th Annual Canadian Society of Forensic Scientists (CSFS), Vancouver, BC.
8. March 8-12, 2003, National Disaster Medical System, Reno, Nev.
9. March 27, 2003, Federal Laboratory Directors Council Meeting, Beltsville, Md.
10. March 28-30, 2003, NLF Region I Meeting, Conyers, Ga.
11. April 4-6, 2003, DNA Brief for Region III (DMORT), Morgantown, WV.
12. April 6-8, 2003, CA Association of Criminalists, Reno, Nev.
13. April 13-15, 2003, DAB Course (FBI), Quantico, Va.
14. April 21-22, 2003, Family Notification USN, Salt Lake City, Utah.
15. April 25-27, 2003, DMPO Family Update, Detroit, Mich.
16. April 25-27, 2003, NLF Region III Meeting, Newport, RI.

17. April 27-29, 2003, USN Notification, Portland, Ore.
18. May 2-8, 2003, Forensic DNA Analysis in Police Investigations and Court, Institute for Genetics and Biotechnology, Sarajevo, B/H.
19. May 2-4, 2003, NLF Region 4 Meeting, Columbus, Ohio.
20. May 7-8, 2003, Mid-Atlantic Association of Forensic Scientists, Annapolis, Md.
21. May 18-24, 2003, Scientific Advisory Board at the International Committee for Missing Persons, Sarajevo, B/H.
22. June 23-25, 2003, NIJ Grantees Workshop, Washington, DC.
23. June 26-29, 2003, NLF Annual Meeting (SEA), Washington, DC.
24. July 14-17, 2003, Scientific Working Group for DNA Analytical Methods Meeting, Quantico, Va.
25. August 22-23, 2003, DMPO Family Update, Seattle, Wash.
26. August 29–September 7, 2003, 3rd European School in Forensic Genetics, Zagreb, Croatia.
27. September 19-20, 2003, DPMO Family Update, St. Louis, Mo.
28. September 20-30, 2003, 3rd European Academy of Forensic Sciences, Istanbul, Turkey.
29. September 22-24, 2003, DPMO Family Update, St. Louis, Mo.
30. ASCLD Meeting, St. Petersburg, Fla.
31. October 17-18, 2003, DMPO Family Update, Jacksonville, Fla.
32. October 24-26, 2003, NLF Region II Meeting, Philadelphia, Penn.
33. November 21-22, 2003, DPMO Family Update, Phoenix, Ariz.
34. December 5-13, 2003, JPAC-CIL, ASCLD Award Ceremony, Honolulu, Hawaii.

Inspections

1. American Society of Crime Laboratory Directors/Laboratory Accreditation Board Annual Internal Inspection, February 27, 2003.
2. American Society of Crime Laboratory Directors/Laboratory Accreditation Board Pre-Accreditation Inspection, March 31– April 3, 2003.
3. American Society of Crime Laboratory Directors/Laboratory Accreditation Board Re-Accreditation, April 28 – 30, 2003.
4. Montgomery County Fire Marshall Annual Walk-Thru, April 2003 (AFDIL) and October 2003 (Repository).
5. Baltimore Corps of Engineers Annual Walk-Thru, May 2003.
6. DoD DNA Quality Oversight Committee, Annual Inspection, May 5 – 7, 2003.
7. AFIP Security Threat Assessment, May and November 2003.
8. Department of the Army Security Division, AFRSSIR and Gillette Building, June and December 2003.
9. AFIP Scientific Advisory Board Annual Inspection, June and December 2003.
10. Pre-CAP Inspection, September 2003.
11. AFIP Board of Governors Annual Walk-Thru, September 2003.
12. CAP Biannual Inspection (External), October 2003.

Aaron Jacobs, COL, MS, USA
Chief
Date of Appointment – 30 May 2000

DIVISION OF FORENSIC TOXICOLOGY
OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

ORGANIZATION

The division is organized into 3 departments and the Office of the Chief:

1. Postmortem and Human Performance Testing Laboratory Branch
2. DoD Drug Detection Quality Assurance Branch
3. Forensic Toxicology Program Development and Education

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Teresa M. Schaefer, Computer Specialist
Tara Short, Executive Assistant
Jaqueline O. Jordan, Secretary

IMPACT

Division staff play a key role in expanding the reach of forensic toxicology in establishing the role of toxicological agents in military readiness as it relates to illness, accident, or death. The Postmortem and Human Performance Testing Laboratory provides toxicology laboratory testing and consultation in medical examiner investigations and other medical cases of national interest. The DoD Drug Detection Quality Assurance Laboratory provides quality assurance oversight of the entire DoD Drug Testing Program through certification, proficiency testing and laboratory inspections. Forensic Toxicology Program Development and Education plays a key role in ensuring that personnel are aware of the latest developments in the field and that the services we provide are cost-effieicent, timely, and of the highest quality. Our scope of operations is immense, providing toxicological services to over 1,700 military, federal, state, local, and nongovernmental agencies worldwide.

The Postmortem and Human Performance Testing Laboratory offers toxicological services for the OAFME, all Armed Forces air, ground, and sea-based mishap investigations, criminal investigations, fitness for duty investigations, and medicolegal determinations. We also provided toxicological consultations to NASA following the Space Shuttle Columbia accident investigation, the Central Intelligence Agency following the assault on a Moscow theater, and to hundreds of military and federal agencies during Operations Enduring Freedom and Iraqi Freedom.

The DoD Drug Detection Quality Assurance Department is integrally coupled with the DoD Drug Testing Program, providing laboratory certification procedures for 6 (1 Air Force, 2 Army, 3 Navy) DoD Drug Testing Laboratories through proficiency testing and laboratory inspections. We prepare and send 25,000 open and blind proficiency specimens each year to military laboratories to ensure that results are reported with 100% accuracy. Continued laboratory certification for each Military Drug Testing Laboratory is maintained through vigorous quarterly inspections conducted by division personnel and civilian toxicologists. Departmental personnel contribute immeasurably to the continuing success of the DoD Drug Testing Program and the decline of drug use by military personnel. This is accomplished by development of new procedures to analyze drugs (eg, LSD, THC, ketamine) at lower concentrations using cutting-edge technology, conducting prevalence testing for emerging drugs of abuse such as ecstasy (MDMA), oxycodone, and benzodiazepines (eg, valium), and providing expert witness testimony at military courts martial and federal court proceedings.

The Forensic Toxicology Program Development and Education Department keeps our personnel and services on the cutting edge of forensic toxicology through a dynamic continuing education program and program development initiatives tailored to meet the varied needs of our customers. For example, for Operation Iraqi Freedom a method was developed to provide evidence of exposure to chemical warfare agents, and the already broad spectrum of toxicological agents that we can detect was further widened by developing methods to analyze for fentanyl (narcotic analgesic), psilocin, mescaline, RDX (high-energy explosive), and hallucinogenic tryptamines.

In 2003, our division developed several new methods for toxicological analysis:

1. Analysis and quantitation of psilocin, a hallucinogen derived from mushrooms (genus *Psilocybe*) and a metabolite of psilocybin.
2. Analysis and quantitation of mescaline, a hallucinogen derived from the peyote cactus.
3. New method for the detection and quantitation of NSAIDs (acetaminophen, salicylic acid, ibuprofen, naproxen).
4. Analysis and quantitation of hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX or C4).
5. Analysis and quantitation of 2-oxo-3-hydroxy-lysergic acid diethylamide, a major

metabolite of LSD.
6. Analysis and quantitation of nonhydrolytic metabolites of cocaine (cocethylene, ecgonine methyl ester, meta-hydroxy-benzoylecgonine, para-hydroxy-benzoylecgonine).
7. Fast GC/MS screening/quantitation method for oxycodone and hydrocodone.
8. Analysis and quantitation of fentanyl (narcotic analgesic) and norfentanyl.

CONSULTATION

5,966 cases were reported in 2003. The average turnaround time for these cases was 7.1 days.

Type of Case		Source of Case	
Aircraft Incidents	1,998	USA	2,581
Air Fatalities	100	USAF	1,130
Criminal/Investigative	2,248	USN	863
Postmortem	898	USMC	50
Quality Controls	299	USCG	149
Surveys	72	DCME	351
DCME (Investigative)	26	Civilian/Other	471
DCME (Postmortem)	325	QC/Surveys	371
TOTAL	5,966	TOTAL	5,966

Deployments

Military/Federal/Civilian Expert Testimony and Litigation Support

1. January 14-16, 2003: MacDill AFB, Tampa, Fla, Consultant, B Paul.
2. February 10-13, 2003: Washington Navy Yard, Expert Witness, J Jemionek.
3. February 10-13, 2003: Washington Navy Yard, Expert Witness, T Bosy.
4. March 10, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
5. March 31, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
6. April 3, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
7. April 3, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
8. April 8-11, 2003: Buckley AFB, Denver, Colo, Expert Witness, J Jemionek.
9. April 14-17: US Navy, Norfolk, Va, Expert Witness, B Paul.
10. May 2003: Hurlburt AFB, Panama City, Fla, Expert Witness, T Bosy.
11. May 5-7: 2003, Darmstadt, Germany, Expert Witness, A Jacobs.
12. June 2003: US District Court, Alexandria, Va, Expert Witness, E Shimomura.
13. June 2003: Washington, DC Court, Park Police, Expert Witness, E Shimomura.
14. June 2003: Bolling AFB, Washington, DC, Expert Witness, T Bosy.
15. June 4-6, 2003: Buckley AFB, Denver, Colo, Expert Witness, J Jemionek.
16. June 20, 2003: US Park Police, Alexandria, Va, Expert Witness, B Paul.
17. June 23-26, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
18. July 15-19, 2003: US Coast Guard, Cape May, NJ, Expert Witness, B Paul.
19. August 2003: US District Court, Alexandria, Va, Expert Witness, E Shimomura.
20. August 2003: Ft McNair, Washington, DC, Expert Witness, T Bosy.
21. August 18, 2003: Ft Drum, NY, Expert Witness, E Shimomura.
22. August 20-22, 2003: Ft Drum, NY, Expert Witness, E Shimomura.
23. August 22, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
24. August 22, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
25. September 2003: MacDill AFB, Tampa, Fla, Expert Witness, T Bosy.
26. September 2003: Cannon AFB, Clovis, NM, Expert Witness, T Bosy.
27. September 10-12, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
28. September 15, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
29. September 16-18, 2003: Lackland AFB, San Antonio, Tex, Litigation Support, B Paul.
30. September 23-24, 2003: MacDill AFB, Tampa, Fla, Expert Witness, A Jacobs.
31. October 2003: US District Court, Alexandria, Va, Expert Witness, E Shimomura.
32. October 2003: Ft Bragg, NC, Expert Witness, T Bosy.
33. October 7-8, 2003: Mountain Home AFB, Idaho, Expert Witness, A Jacobs.

34. October 14-17, 2003: Altus AFB, Okla, Expert Witness, J Jemionek.
35. October 15-16, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
36. November 6-7, 2003: US Navy, Norfolk, Va, Litigation Support, B Paul.
37. December 1, 2003: US District of Maryland, District Court, Expert Witness, B Levine.
38. December 8, 2003: US District of Maryland, District Court, Expert Witness, B Levine.

DoD Quality Assurance Drug Laboratory Inspections

1. January 2003: Navy Drug Testing Laboratory, Jacksonville, Fla, T Bosy.
2. January 2003: Army Drug Testing Laboratory, Tripler, Hawaii, A Jacobs.
3. March 2003: Navy Drug Testing Laboratory, San Diego, Calif, J Jemionek.
4. April 2003: AF Drug Testing Laboratory, San Antonio, Tex, A Jacobs.
5. April 2003: Army Drug Testing Laboratory, Ft Meade, Md, A Jacobs.
6. April 2003: Navy Drug Testing Laboratory, Jacksonville, Fla, J Jemionek.
7. May 2003: Navy Drug Testing Laboratory, Great Lakes, Ill, J Jemionek.
8. May 2003: Army Drug Testing Laboratory, Tripler, Hawaii, T Bosy.
9. July 2003: Navy Drug Testing Laboratory, San Diego, Calif, T Bosy.
10. August 2003: Navy Drug Testing Laboratory, Great Lakes, Ill, T Bosy.
11. August 2003: Navy Drug Testing Laboratory, Jacksonville, Fla, A Jacobs.
12. August 2003: Army Drug Testing Laboratory, Ft Meade, Md, A Jacobs, D Lesser, B Paul.
13. September 2003: AF Drug Testing Laboratory, San Antonio, Tex, D Lesser.
14. September 2003: Army Drug Testing Laboratory, Tripler, Hawaii, A Jacobs.
15. November 2003: Navy Drug Testing Laboratory, San Diego, Calif, D Lesser.
16. December 2003: Army Drug Testing Laboratory, Ft Meade, Md, D Lesser.
17. December 2003: Navy Drug Testing Laboratory, Great Lakes, Ill, J Jemionek.
18. December 2003: AF Drug Testing Laboratory, San Antonio, Tex, A Jacobs, D Lesser.
19. December 2003: AF Drug Testing Laboratory, San Antonio, Tex, T Bosy, J Jemionek.

National/International Consultations

1. Central Intelligence Agency, B Paul, J Jemionek, A Jacobs, J Magluilo.
2. NASA, Space Shuttle Columbia, Division of Forensic Toxicology.
3. MacDill AFB, Tampa, Fla, B Paul.
4. Criminalists, Kern County, Calif, B Paul.
5. Air Force Drug Testing Program Manager, Alexandria, Va, B Paul.
6. Naval Legal Service Office, Norfolk, Va, B Paul.
7. Brooks AFB Drug Testing Laboratory, A Jacobs, J Jemionek, D Lesser.
8. Department of Justice, Border Patrol, San Diego, Calif, T Bosy.
9. Staff Judge Advocate, Ausbach, Germany, T Bosy.

EDUCATION

Lectures

1. January 2003: University of Maryland, “Criminal Poisonings,” B Levine.
2. January 2003: University of Maryland, “Postmortem forensic toxicology,” B Levine.
3. January 2003: University of Maryland, “Human performance toxicology,” B Levine.
4. February 2003: University of Maryland, “Forensic drug testing,” B Levine.
5. February 2003: University of Maryland, “Pharmacokinetics,” B Levine.
6. February 2003: University of Maryland, “Specimen preparation,” B Levine.
7. February 2003: University of Maryland, “Spectrophotometry,” B Levine.
8. February 2003: University of Maryland, “Chromatography,” B Levine.
9. March 2003: University of Maryland, “Mass spectrometry,” B Levine.
10. March 2003: University of Maryland, “Immunoassay,” B Levine.
11. March 2003: University of Maryland, “Alcohol I,” B Levine.
12. March 2003: University of Maryland, “Alcohol II,” B Levine.
13. March 2003: University of Maryland, “Therapeutic drugs I,” B Levine.
14. March 2003: University of Maryland, “Therapeutic drugs II,” B Levine.
15. April 2003: University of Maryland, “Therapeutic drugs III,” B Levine.
16. April 2003: University of Maryland, “Opiates I,” B Levine.
17. April 2003: University of Maryland, “Opiates II,” B Levine.
18. April 2003: University of Maryland, “Amphetamine/sympathomimetic amines,” B Levine.

19. April 2003: University of Maryland, "Cocaine," B Levine.
20. April 2003: University of Maryland, "Cannabinoids," B Levine.
21. April 2003: University of Maryland, "Hallucinogens," B Levine.
22. April 2003: University of Maryland, "Date rape drugs," B Levine.
23. May 2003: University of Maryland, "Postmortem changes in chemistry and toxicology," B Levine.
24. May 2003: MAAFS Meeting, "Forensic toxicology," B Levine.
25. May 2003: University of Maryland, "Carbon monoxide/cyanide," B Levine.
26. May 2003: Harvard Associates for Police Science, "Use of toxicological information in the final diagnosis," B Levine.
27. June 2003: Washington, DC, AFIP, "Methylprednisolone concentration in intravenous solutions: an investigation," B Paul.
28. August 2003: OCME, "Forensic toxicology," B Levine.
29. November 2003: University of Baltimore, "Forensic toxicology," B Levine.
30. November 2003: University of Maryland, "Forensic toxicology I," B Levine.
31. November 2003: University of Maryland, "Forensic toxicology II," B Levine.

Presentations

1. February 2003: Tampa, Fla, Workplace Urine Specimen Validity Testing Colloquium, "Hyponatremia and specific gravity," A Jacobs.
2. April 2003: Washington, DC, National Guard Demand Reduction Conference, "Quality assurance oversight of military drug testing," T Bosy.
3. May 2003: Kansas City, Kan, Western Defense Reserves JAG, "Drug testing issues," A Jacobs.
4. June 2003: Washington, DC, AFIP, "THC concentrations in commercially available hemp products," J Holler.
5. June 2003: Washington, DC, AFIP, "Analysis of Microgenics® CEDIA 6AM assay," J Holler.
6. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "Emerging new immunoassay reagent requirements," J Jemionek.
7. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "Methylprednisolone concentration in intravenous solution: an investigation," B Paul.
8. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "THC and cocaine in commercially available food products," T Bosy.
9. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "Recent improvements to the military blind proficiency program," T Short.
10. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "THC concentrations in commercially available hemp products," J Holler.
11. June 2003: Jacksonville, Fla, DoD Tri-Service Laboratory Managers Meeting, "Analysis of Microgenics® CEDIA 6AM assay," J Holler.
12. June 2003: Washington, DC, Health and Human Services Workplace Testing, Drug Technical Advisory Board, "Use of 6-acetyl-morphine immunoassay reagent as an adjunct to opiates," J Jemionek.
13. July 2003: San Diego, Calif, Air Force Drug Managers World Wide Conference, "AFIP contribution to drug demand reduction," T Bosy.
14. August 2003, Rockville, Md, Forensic Toxicology, "Postmortem ethanol analysis and interpretation," D Lesser.
15. September 2003: Bethesda, Md, Department of Health and Human Services, National Laboratory Certification Program, "Detection of oxidizing agents in urine," B Paul.
16. October 2003: Portland, Ore, Society of Forensic Toxicology Meeting, "Developments in federally regulated drug testing," T Bosy.
17. October 2003: Rockville, Md, Forensic Toxicology, "Date rape drugs," K Abold.
18. November 2003: Rockville, Md, Forensic Toxicology, "Cocaine consumption or sample contamination: a case study," J Sklerov.
19. November 2003: Melbourne, Australia, International Association of Forensic Toxicologists, "Distribution of cocaine metabolites in postmortem blood and urine," B Paul, A Jacobs.
20. December 2003: Rockville, Md, Forensic Toxicology, "PCP: still a problem?" E Shimomura.

Poster Presentation

March 25, 2003: Reno, Nev, Society of Armed Forces Medical Laboratory Scientists, "Current

and historical demographic information from a military postmortem toxicology laboratory," R Martin, A Jacobs, T Schaefer.

Workshops

1. March 24, 2003: Reno, Nev, Society of Armed Forces Medical Laboratory Scientists, "Postmortem and investigative forensic toxicology sample submissions: a contributor's guidebook," R Martin, E Greenidge-Blake, A Jacobs.
2. October 20, 2003: Portland, Ore, Society of Forensic Toxicology, "Chemical, biological and nuclear threat: challenges for the toxicologist," A Jacobs.

Faculty Appointments

Clinical Associate Professor, University of Maryland School of Medicine, Department of Pathology, B Levine.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by division staff.

Projects

1. Clinical studies of various routes of administration of cocaine to human subjects and the development of methods to identify the cocaine metabolites.
2. Investigation on smoking ephedrine and pseudoephedrine in relation to ingestion of methamphetamine and methcathinone as pyrolytic compounds.
3. Heroin metabolite (6-acetylmorphine) immunoassay reagent validation study.
4. Oxycontin (oxymorphone/oxycodone) prevalence study and immunoassay reagent evaluation.
5. Benzodiazepine prevalence study and immunoassay reagent evaluation.
6. Method for detecting ecogonine, an end-metabolite of cocaine, in urine.

PROFESSIONAL ACTIVITIES

Proficiency Exams

1. Ran the DoD Quality Assurance Open and Blind Drug Testing Proficiency Program worldwide, producing a total of 1,675 military open proficiency specimens, 15,000 military blind proficiency specimens, 450 civilian proficiency specimens, and 375 special testing specimens.
2. Participated in 7 external proficiency tests: AL-1 (volatiles), SO (oximetry), UDC (urine drug confirmation), UT (urine toxicology), FTC (blood forensic toxicology), T (toxicology), NHTSA (ethanol).
3. Performed in-house proficiency testing for analytes not included in external proficiency tests, such as chloroquine, propranolol, and GHB.
4. The division had 3 inspections: Greystone (6-7 November 2003), College of American Pathology (CAP; 14 October 2003), and American Board of Forensic Toxicology (ABFT; 14 October 2003). Greystone and CAP were both on-site inspections, whereas ABFT was a mid-cycle review.

Editorial Boards

B Levine:

1. *Journal of Analytical Toxicology*
2. *American Journal of Forensic Medicine and Pathology*

Manuscripts/Research Proposals Reviewed

1. *Journal of Analytical Toxicology*, B Levine (7), B Paul (1)
2. *Forensic Science International*, B Levine (1)
3. *Journal of Chromatography*, B Paul (1)
4. *Clinical Chemistry*, B Paul (1)

National Panels

1. Navy Medical Logistics Command Technical Evaluation Board, B Paul, D Lesser, J Jemionek.
2. DoD Biochemical Testing Advisory Board, A Jacobs (Chair), T Bosy, J Jemionek.
3. DoD Laboratory Certification Inspection program, A Jacobs, D Lesser, J Jemionek, T Bosy, K Abold.

DIRECTORATE OF CLINICAL SCIENCES

Christopher R. Owner, PhD
Director, Clinical Services

ADVANCED MEDICAL EDUCATION (DME)
TELEMEDICINE AND DISTANCE LEARNING
MOLECULAR PATHOLOGY
SCIENTIFIC LABORATORIES
RADIOLOGIC PATHOLOGY
REPOSITORY & RESEARCH SERVICES
CENTER FOR SCIENTIFIC PUBLICATIONS
BIOPHYSICS

Christopher R. Owner, PhD
Chair
Date of Appointment — 4 August 1997

DEPARTMENT OF MEDICAL EDUCATION

ORGANIZATION

The department is organized by function and comprises workshop and seminar design and development, residents-fellows programs, text-based education, Web-based instruction, meeting planning, marketing, art and graphics, study sets, audiovisual, and accounting. The department chair reports to the Principal Deputy Director, Florabel G. Mullick, MD. The Oversight Committee for Continuing Medical Education oversees the department's activities.

STAFF: EDUCATIONAL DIVISION

Christopher R. Owner, PhD, Chair
Carlos H. Moran, Associate Director
Ontee W. Biggs, CSMgt, USAF, Superintendent
Lewis S. Davis, HM1, USN, Educational Coordinator (Radiology)
Carl Williams, Educational Coordinator (Radiology)
Manpreet Singh, Web Coordinator
Ricky H. Giles, Educational Coordinator (Pathology)
Mark L. Hovland, Educational Coordinator (Pathology)
Stephen W. Huntington, TSgt, USAF, Educational Coordinator (Pathology)
Virginia A. McMillan, Visual Information Specialist

Administrative

Lisa P. Holmes, Meeting Management
René M. Sutton, Marketing Specialist
Carolyn Tuchis, Accounts Manager
Kim L. Williams-Chasten, Office Management

Audiovisual

Willie L. Jefferson, Jr., Audiovisual Supervisor
Joseph W. Frederick, Audiovisual Support Technician

Media Center

Harold I. White, SSgt, USAF, Study Set Coordinator

Ash Library

Prem Kalra, Library Consultant
Judith Paige, Library Technician
Daniel Mulholland, Library Technician

MIS Library

Thomas Gaskins, Archive Technician

AFIP/ARP Staff in Support of Mission

Frank Roberts, Histopathology QA
Nicole Jenkins, Histopathology QA
Estelle Page, Histopathology QA
Mark Sacks, CPR Program (AFIP Physicians and Staff)

IMPACT

The educational mission of the AFIP and ARP is to carry out educational activities in partnership with government, academic, and private sector organizations, and to develop and apply expert information for the benefit of individuals and health care professionals. Specifically, we support continuing medical education in pathology and radiology and other related medical disciplines by providing specialized information and advanced research and technology in the study of the pathophysiology of disease.

Scope

The AFIP uses numerous approaches to determine how courses are structured and what information to include. First and foremost is the material we glean from our secondary consult service. The AFIP receives over 55,000 cases annually, many of which are difficult diagnostic cases that become resources for our educational activities. In the past 12 months, we have begun to obtain needs data from the Institute's Pathology Information System (PIMS). Numerous strategies are employed to assess the needs of participants in AFIP's CME activities. The diagnostic agreement codes 1s, 3s, and 4s from the PIMS database are selected. This ongoing "dialogue" with the community of pathologists shapes the information selected for our workshops and didactic programs to accurately reflect the informational needs of military and civilian physicians. To augment these data, we also assess scientific advances in the field of pathology and medicine, seek the consensus of expert pathologists and clinicians, solicit feedback from potential and actual attendees at our programs, and monitor the media to determine issues and topics of importance to the public. The effectiveness of these audience assessment activities can be seen in the evaluation data. The courses we offer cover most of the subspecialties in pathology, including dentistry, veterinary, forensics, and environmental medicine.

Audience

Our primary audience includes military and civilian pathologists, radiologists, and related subspecialty clinicians in the United States, Canada, and worldwide. Secondary audiences include other physicians, health professionals, and interested ancillary medical support systems.

PROFESSIONAL ACTIVITIES

In 2003, the AFIP and ARP offered 43 live courses, 4 regularly scheduled conferences, 3 ground rounds video teleconferences (VTCs), 5 virtual conferences, and 5 DVD sets to 8,939 pathologists, clinicians, legal medicine professionals, veterinary pathologists, radiologists, dentists, forensic anthropologists, military and civilian residents, and professionals in related disciplines.

Training

The department is responsible for coordinating all training/visits to the AFIP and for ensuring that all DoD guidelines and regulations are adhered to. The Training Office serves as the liaison between the AFIP and the Office of the Army Surgeon General (OTSG) and/or the US Department of State, as appropriate. The Training Office is responsible for ensuring all training initiatives comply with governing regulations and maintain compliance with approved international or applicable affiliation agreements.

In addition to services available through the Department of Medical Education, the AFIP also offers trainees/visitors an opportunity to participate in hands-on training/study programs. The AFIP offers many educational opportunities to those interested in training rotations, fellowships, etc. The AFIP's specialized departments participate in a variety of staff conferences. We offer one-on-one instruction with staff pathologists and the opportunity to participate in AFIP activities, providing an optimal training environment.

The Training Office processed approximately 270 foreign national requests for attending Department of Medical Education and Radiology courses, and coordinated approximately 200 interdepartmental training activities, earning the Institute over $100,000.00 in training-fee reimbursables.

Marketing

In 2003, the Marketing Department conducted marketing activities on behalf of 30 seminars and workshops. These activities targeted anatomic and clinical pathologists and radiologists either in practice or serving in residencies. In addition to designing and mailing 130,000 brochures, the staff placed numerous advertisements in journals and newsletters and on websites, including that of the AFIP. The AFIP's website provides detailed course information

and online registration. This year, approximately 31% (ranging from 13% to 46%) of our registrants came through the Internet. To guarantee course information is disseminated to targeted individuals in a timely manner, we are sending more emails, a cost-effective measure that has boosted attendance by 10%.

We are continuing to develop and promote our Medical Education Fund to help defray some of the costs associated with conducting our programs. The fund seeks grants and exhibitors to help defray the cost of preparing syllabi, producing brochures, and marketing existing courses. We have enlisted support from the Jackson Foundation and T.R.U.E. Research Foundation to help raise funds from the commercial sector.

Deployments

1. January 2003, Washington, DC, TRICARE Annual Meeting, staffed AFIP exhibit, R Sutton.
2. March 2003, Washington, DC, US/Canadian Academy of Pathology, staffed AFIP exhibit, R Sutton.
3. June 2003, San Antonio, Tex, Association of the United States Army Conference 2003, designed, produced, and manned AFIP exhibit, R Sutton.
4. August 2003, Albuquerque, NM, Force Health Protection Conference, staffed AFIP exhibit and attended Public Affairs and Marketing Training, R Sutton.
5. October 2003, Washington, DC, AUSA Conference 2003, R Sutton.
6. November 2003, San Antonio, Tex, Association of Military Surgeons of the United States Annual Meeting, staffed AFIP exhibit, R Sutton.

AUDIOVISUAL DIVISION

In 2003, the division supported all AFIP-sponsored CME courses held in the Washington metropolitan area, except courses held at the National Library of Medicine's Lister Hill Auditorium. Other AFIP-sponsored activities supported by the division were: Weekly Professional Staff Conferences (36), AFIP Change of Directors Ceremony, Scientific Advisory Board Presentations (2), ACTUR training sessions and the ACTUR Conference/Workshop/Seminar in Pittsburgh, Penn (4), HIPPA training sessions requiring Web connectivity (7), Transition Senate Meetings conducted by Col Fein (9), and Callender-Binford Lectures (11).

In addition, the division supported a number of WRAMC-sponsored activities held at the AFIP, including:

1. Medical Management of Chemical and Biological Casualty Courses (4)
2. Medical Emergency Ionizing Radiation Courses (2)
3. The North Atlantic Regional Medical Center Combat Stress Course given by members of the British Royal Marines
4. Orthopedic Surgeons Courses (3)
5. Psychiatric Department Workshops/Seminars (2)

During 2003, the division upgraded the Hughes JVCs optics systems, significantly improving image quality. We have received very favorable comments regarding image quality from presenters using PowerPoint. The Hughes JVCs will be replaced by digital projectors as part of an A/V system upgrade supported by medcase funding.

1. PROPERTY VALUE
   a. $336,774.58
   b. 113 items listed on handreceipt
2. AUDIOVISUAL PROPOSED BUDGET
   a. Equipment (new and replacement) $24,917.00
   b. Supplies 800.00
   c. Maintenance/repair 3,000.00
   Total $28,717.00
3. A/V OPERATOR SUPPORT REQUESTS
   a. In-house 356
   b. CME courses 28
   c. WRAMC 37
   d. Outside organizations 01
4. A/V EQUIPMENT LOAN REQUESTS
   a. In-house 302

b. CME courses 28
c. WRAMC 39
d. WRAIR 01
e. Outside organizations 01

5. AUDIOVISUAL EQUIPMENT ON INDEFINITE LOAN
a. In-house 12
b. WRAMC 07

MEDIA CENTER

1. Public Services
a. Sets used by AFIP personnel 53
b. Interlibrary loans
Federal 85
Nonfederal 395
c. Ready reference
Media Center 70
Phone calls 325

2. Technical Services
a. New sets acquired
Veterinary Department 10
b. Loans to civilians $11,363.16

ASH LIBRARY

The Ash Library provides scientific and medical journals and books to AFIP users. Its collection includes 323 printed journals, about 200 online journals that users can access via PCs, and approximately 4,746 books. In addition, Ash Library subscribes to ProQuest Health and Medical Complete database, which is accessible through PCs and contains 1,080 journals, most having full text.

The Ash Library was moved from the 4th floor to the 1st floor of the Institute, collocating the collection and Internet workstations with the new cafeteria and creating a more modern, user-friendly environment. To upgrade our book collection, in 2002 the Library started withdrawing outdated, seldom-used books. In 2003, we withdrew 739 titles and added 133 new titles to the collection. In addition, more online journals are now accessible to users from their PCs.

Interlibrary Loans

Ash Library processed 1,236 loan requests and loaned 45 titles to other libraries. Most loan requests were processed within 24 hours and sent to requesters via email in a pdf format.

Ash Library Statistics

a. Circulation
Checked out: 111
Checked in: 102
Renewed: 75
b. Interlibrary Loans
Borrowed: 1,236
Loaned: 45
c. Acquisitions
Book titles received: 133
Serial titles deleted: 8
Serial titles added: 7
d. Collections
Total book titles 4,746
Current print journal titles 323
Online journals available 1,280

DEPARTMENTAL TRAINING STUDY

	Federal Attendees	Non federal Attendees	International Attendees	Training Days Fed	Training Days Nonfed	Training Days International	Units
Cardiovascular Path	1	2	7	22	143	63	1,824
Cellular Pathology	3	0	0	65	0	0	520
Center for Advanced Pathology	0	0	0	0	0	0	0
Dermatopathology	13	16	0	462	441	0	7,224
Environmental & Toxicologic Pathology	1	0	0	125	0	0	1,000
GU Pathology & Nephropathology	7	8	2	140	549	24	5,704
Gynecologic & Breast Pathology	3	7	0	63	116	0	1,432
Hematopathology	3	1	1	54	125	9	1,504
Hepatic & Gastrointestinal Pathology	4	12	1	67	374	22	3,704
Infectious Dis, AIDS & Microbiology	0	1	0	0	126	0	1,008
Neuropathology & Ophthalmic Pathology	6	18	0	96	854	0	7,600
Oral Pathology	0	3	0	0	35	0	280
Orthopedic Pathology	2	3	0	22	171	0	1,544
Otolaryngic Pathology	0	9	0	0	285	0	2,280
Pulmonary & Mediastinal Pathology	2	7	2	20	346	272	5,104
Radiologic Pathology	0	2	0	0	146	0	1,168
Scientific Laboratories	0	2	0	0	0	28	224
Soft Tissue Pathology	7	6	0	90	229	0	2,552
Telepathology	3	0	0	41	0	0	328
Veterinary Pathology	11	13	1	2,143	340	5	19,904
SUBTOTAL	**66**	**110**	**14**	**3,410**	**4,280**	**423**	**64,904**
TOTAL			**190**			**8,130**	**64,904**

LONG COURSES

	Federal Attendees	Non federal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Units
Anatomic Pathology	23	36	1,357	2,124	27,848
Basic Sciences ENT	15	13	315	273	4,704
Neuropathology	8	9	424	477	7,208
Neuropathology	5	8	265	424	5,512
Orthopedic Pathology	5	1	50	10	480
Radiologic Pathology	10	218	290	6,322	52,896
Radiologic Pathology	8	234	240	7,020	58,080
Radiologic Pathology	9	232	270	6,960	57,840
Radiologic Pathology	5	170	145	4,930	40,600
Radiologic Pathology	12	234	348	6,786	57,072
SUBTOTAL	**100**	**1,155**	**3,704**	**35,326**	
TOTAL		**1,255**		**39,030**	**312,240**

SHORT COURSES

	Federal Attendees	Non federal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Units
General Neuropathology	0	1	0	10	80
Developmental and Genetic Disorders	2	1	18	9	216
Tumors of the Central Nervous System	5	0	50	0	400
Neurodegenerative Diseases	5	1	20	4	192
18th Washington Neuroradiology Course	13	84	26	168	1,552
41st Annual Neuropathology Review	17	126	85	1,008	8,744
Infectious Diseases of the CNS	1	0	5	0	40
39th Annual Forensic Identification (Dentistry) & Emerging Technologies	82	59	410	295	5,640
Neuromuscular Diseases	1	0	10	0	80
Pathology in the Management of Otorhinolaryngology – Head and Neck Patients	0	2	0	10	80
16th Annual Forensic Anthropology	10	44	50	220	2,160
Abdominal Imaging Course	7	4	35	20	440
Dermatopathology Workshop	27	90	54	180	1,872
12th Descriptive Veterinary Pathology	15	69	75	345	3,360

General Neuropathology	1	0	140	0	80
37th Urological Pathology Course	10	59	50	295	2,760
Developmental and Genetic Disorders	0	1	0	10	80
7th Current Laboratory Animal Science Seminar (CLASS)	22	80	44	160	1,632
48th Annual Pathology of Laboratory Animals (POLA)	43	150	172	600	6,176
Tumors of the Central Nervous System	1	3	10	30	320
Neurodegenerative Diseases	2	1	10	5	120
Neuromuscular Diseases	0	1	0	9	72
Ophthalmic Pathology for Ophthalmologists	22	90	110	450	4,480
14h Annual GI Surgical Path & Endoscopic Biopsies of the GI Tract	26	86	52	172	1,792
24th Annual Hepatopathology: The Interpretation of Liver Biopsies	26	91	78	273	2,808
32nd Annual Orthopedic Pathology	14	38	84	228	2,496
Infectious Diseases of the CNS	0	1	0	5	40
4th Annual Soft Tissue Tumors	7	39	28	156	1,472
Surgical Oral & Maxillofacial Pathology	9	23	27	69	768
Clinical Oral & Maxillofacial Pathology	3	22	3	22	200
Basic Forensic Pathology	35	68	175	340	4,120
SUBTOTAL	406	1,234	1,821	5,093	54,272
TOTAL		1,640		6,914	54,272

YEAR-ROUND TRAINING/EDUCATION

	Total Attendees	Days	Units	Hours
Legal Medicine Open File	3454	2,158.75	5	17,270
RTPA Web Conference	550	2,475	36	19,800
Weekly Professional Staff Conference	1,222	152.75	1	1,222
Histopathology Quality Assessment Program	582	1,236.75	17	9,894
Virtual Gastrointestinal Endoscopic Biopsy	15	18.75	10	150
Online Urologic Pathology Series	24	30	10	240
Callender-Binford	7	3,016	8	24,128
Total	**5,854**	**9,088**	**87**	**72,704**

TOTAL NUMBER OF ATTENDEES/DAYS/UNITS

	Attendees	Days	Units
GRAND TOTALS	**8,939**	**63,162**	**504,120**

Bruce H. Williams, DVM, DACVP
Chair
Date of Appointment —1 October 1997

DEPARTMENT OF TELEMEDICINE/DISTANCE LEARNING

STAFF

Medical

Bruce H. Williams, DVM, DACVP

Administrative

Daniel R. Butler, HM1, Systems Administrator
Roderick F. Herring, Technical Support Services Specialist
David Draley, Webmaster
Michele Richman, Online Publications Supervisor
Manpreet Singh, Online Fascicle Specialist
Bonnie L. Casey, Online Fascicle Specialist

IMPACT

The AFIP's electronic consultation program is the largest of its kind in the world, and the most efficient in terms of case turnaround time. The telemedicine program provides pathology consultation in near or real time, impacting at point of care and making significant contributions to patient care. The primary contributors to the department operate in small independent military laboratories with 1 or 2 pathologists, often without recourse to other consultative services.

In 2003:

- The AFIP expanded the Army's foray into real-time telepathology, with 8 MTFs receiving robotic microscopes, for a total of 14 microscopes installed in Army MTFs worldwide. This technology enables AFIP consultants to operate microscopes at remote sites, allowing them to visualize any field on the slide at any magnification. Real-time systems allow for increased concordance between diagnoses rendered by traditional and electronic consultation. AFIP and WRAMC staff members have coordinated installation and troubleshooting duties on the new systems.
- The Department of Telemedicine began digitizing the Atlas of Tumor Pathology fascicles, and published the first 2 volumes of the online edition of the AFIP Non-Tumor Fascicle (Endocrine and Pulmonary Diseases). The electronic version of the Institute's flagship publication provides functionality previously unseen in electronic textbooks. Approximately 1,900 subscribers have established online accounts, up from approximately 500 in 2002. This prototype provides all of the information covered in the print version, with enhanced search capabilities and links to the NLM Medline database for all references. The online version results in considerable cost savings compared to current electronic fascicles, and requires less preparation time than comparable print versions.
- The newly christened Department of Telemedicine/Distance Learning received its first review by the Scientific Advisory Board. The committee enthusiastically endorsed maximum support for expanding the department's capabilities. Recommendations were directed at increasing allocations for space and personnel to meet upcoming mission requirements, as well as improving local infrastructure to ensure uninterrupted high-

speed data delivery to Institute customers.

CONSULTATION

Cases	*Completed*
Military	268
Federal	
VA	30
Civilian	128
Total	426

Overall cases increased by 34% over 2002. Average turnaround time for 2003 was 3.2 hours, down 9% from 2002. These numbers represent a significant shift from those of 2002 in terms of our target demographics and focus on a military-relevant mission. Military cases increased 255% over the previous year, with a primary contribution from the Army Telepathology Program. We experienced a 33% decrease in civilian cases in 2003, as 100% reimbursement was sought for all services rendered.

EDUCATION

Courses

Department personnel participated in 6 courses in telemedicine, veterinary medicine, and veterinary pathology in 2003.

Educational Aids

The department provided updates or original design for 26 AFIP websites, provided extensive content to 6 AFIP websites, and e-commerce functionality to 3 websites. Web design and database development was initiated and/or completed for 5 distance learning activities. In 2003, the department expanded the Online Pathology Services. In addition to the online fascicles, Online Pathology Services now include:

- Anatomic Pathology Study Sets 2003
- Histopathology Quality Assurance Program 2003
- Registry of Oral and Maxillofacial Pathology Slide Conference 2003
- Wednesday Slide Conference 2002-2003
- Wednesday Slide Conference 2003-2004
- AFIP Grand Rounds videoteleconferences

As of 2003, Continuing Medical Education (CME) credits are available online as well.

Presentations

1. March 2003: Herndon, Va, NOVA, “Basic care and diseases of the domestic ferret,” B Williams.
2. April 2003: Washington, DC, “Gross morbid anatomy of diseases of animals: macroscopic description in veterinary pathology.
3. June 2003: Washington, DC, “Macroscopic and microscopic description in veterinary pathology,” B Williams.
4. July 2003: Genoa, Italy, Eurotelepath: Telepathology and Digital Imaging Lecture Series, “The basics of digital imaging,” B Williams.
5. September 2003: Washington, DC, AFIP Weekly Professional Staff Conference, B Williams.
6. October 2003: Pittsburgh, Penn, University of Pittburgh, Anatomic Pathology Informatics, Imaging, and the Internet, “Barriers in telemedicine,” B Williams.
7. November 2003: Banff, Alberta, American College of Veterinary Pathologists, “Telemedicine: the future is now,” B Williams.

Exhibits

March 2003, USCAP Meeting, Washington, DC.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

The department had one active research protocol in 2003: Telepathology consultation at the AFIP. This project culminated in a peer-reviewed article published in *Human Pathology* concerning the effect of image quality on the diagnosis of static images.

A pilot project on teleforensic dentistry was funded by the Telemedicine and Advanced Technology Research Center in Ft Detrick, Md. The project, to be completed in September 2004, involves developing and field testing a software application that enables dental identification of human remains at a location remote from the decedent. The application is being developed with a footprint small enough that comparisons may be made via a satellite link (64 kbps.)

Collaborators

Military/Federal

1. Telemedicine and Advanced Technology Research Center, Ft Detrick, Md: Teleforensic dentistry.
2. Department of Pathology, WRAMC: Feasibility study of real-time pathology consultation.
3. NCI, Bethesda, Md: Familial testicular neoplasia.

Civilian

1. American Registry of Pathology: Online Fascicles of Tumor Pathology.
2. American Telemedicine Association: Telemedicine Special Interest Working Group.
3. Illumea Corporation: Feasibility study of real-time pathology consultation.
4. Aperio Inc: Feasibility study of virtual slide scanning in consultative practice.
5. Animal Medical Center, New York, NY: Estrogen and progesterone receptors in ferret adrenal leiomyosarcomas.

International

1. UICC-TPCC Collaboration Center, Berlin, Germany: WHO second opinion electronic consultation.
2. Danish Veterinary Institute, Aarhus, Denmark: Immunophenotyping of ferret lymphoma.

Interdepartmental

1. Department of Quality Assurance: Online Histopathology and Quality Assurance Program.
2. Information Management: Image-enabled reporting (integration with PIMS).
3. Department of Genitourinary Pathology: Familial testicular neoplasia.
4. Department of Medical Education: Online anatomic pathology study sets.
5. Department of Medical Education: AFIP Grand Rounds.
6. Department of Veterinary Pathology: Online Wednesday Slide Conference.

PROFESSIONAL ACTIVITIES

Official Trips

March 2003, US/Canadian Academy of Pathology, D Butler, B Williams.

Manuscripts Reviewed

Members of the department reviewed 4 articles for *Veterinary Pathology*.

Jeffery K. Taubenberger, MD, PhD
Chief
Date of Appointment — 1 January 1994

DEPARTMENT OF MOLECULAR PATHOLOGY

ORGANIZATION

The department is organized into 3 laboratories:

1. Molecular Diagnostics Laboratory – Jack H. Lichy, MD, PhD, Director
2. DNA Core Sequencing Laboratory – Alan Hubbs, PhD, Director
3. Research Laboratory – Jeffery K. Taubenberger, MD, PhD, Chief

STAFF

Jeffery K. Taubenberger, MD, PhD, Staff Pathologist and Division Chief
(D) Karen Bijwaard, MS, Medical Technologist
(A) Sabrina M. Campbell, HM1, USN, Medical Technologist
Jessica Dement, BS, ARP, Medical Technologist
Thomas G. Fanning, PhD, Principal Investigator
Raina Lourens, BS, ARP, Research Biologist
Thomas Janczewski, BS, ARP, Research Biologist
Daisy Johnson, SGT, USA, Medical Technologist
Amy E. Krafft, PhD, MT (ASCP), Medical Technologist
(D) Qi Liang, PhD, ARP, Research Biologist
Jack H. Lichy, MD, PhD, Staff Pathologist and Director, Molecular Diagnostics Laboratory
Sherman McCall, LTC, MC, USA, Staff Pathologist
(D) Elizabeth Onuoha, BS, ARP, DNA Sequencing Technologist
Pin-Yu Perera, PhD, ARP, Research Biologist
Jean Przybocki, BS, Medical Technologist
(D) Ronald Przygodzki, MD, ARP, Staff Pathologist
Ann H. Reid, MA, Research Biologist
Zong-Mei Sheng, MD, PhD, ARP, Research Biologist
Mark M. Tsai, MS, Research Biologist
Ruxie Wang, PhD, ARP, Research Biologist

IMPACT

The department performs consultation, research, and education in molecular biology and molecular pathology, develops new techniques for consultative diagnostic molecular pathology and molecular medicine, and explores new areas of molecular biology to determine which may be useful for current or future development at the Institute. Division staff collaborate with other AFIP departments by performing research using molecular techniques.

- S McCall received board certification in Molecular Genetic Pathology from the American Boards of Pathology and Medical Genetics.
- The Molecular Diagnostic Laboratory received recertification in molecular pathology during the CAP inspection in November 2003.
- The DNA Core Sequencing Laboratory generated DNA sequences from 8,000 samples.
- S McCall served as a PROFIS pathologist augmentee to the 520th Theater Army Medical Lab.
- S McCall served as a Certification Instructor, Advanced Trauma Life Support, American

College of Surgeons (by invitation only).
- JH Lichy conducted the AFDIL pre-CAP inspection on August 13, 2003.
- JK Taubenberger served as a member of the Biological Panel of the Committee on Science and Technology for Countering Terrorism, which published *Countering Bioterrorism: The Role of Science and Technology in Countering Terrorism*. Washington, DC: National Academy of Sciences Press; 2003.

Public Affairs Reports

Research on the 1918 influenza and on influenza surveillance continued to generate national and international press coverage.

CONSULTATION

The Molecular Diagnostics Laboratory received 4,952 cases in consultation in 2003, a 306% increase from 2002. Of these, 87% were primary molecular genetic consults from the US military. Another 11% were received from 22 CAP departments, and the remainder from direct consults from other institutions. On average, 1.3 different tests were requested per case, resulting in 6,267 separate molecular pathology assays completed in 2003.

The following tests were offered for clinical or research diagnosis on submitted fixed tissue:

1. Hematopathology: Immunoglobulin heavy chain rearrangement; T cell receptor beta gene rearrangement; T cell receptor gamma gene rearrangement; t(14;18) translocation, major and minor breakpoints; t(9;22) translocation, ALL and CML types; t(11;14) translocation; t(2;5) translocation, and quantitative PRAD1 overexpression.
2. Solid tumors: t(11;22) EWS/FLI-1, t(11;22) EWS/WT1; t(X;18), t(1;13) and t(2;13) translocations.
3. Infectious diseases: *Coxiella burnetti*, Epstein-Barr virus, herpes simplex virus 1 and 2, human herpes virus 8, human papillomavirus, animal papillomaviruses, enterovirus, adenovirus, hepatitis C virus, morbilliviruses (human measles virus, canine distemper virus, dolphin morbillivirus, porpoise morbillivirus), *Pneumocystis carinii*, *Toxoplasma gondii*, varicella-zoster virus.
4. Genetic tests: Hemochromatosis, factor V (Leiden) and prothrombin mutation assays, cystic fibrosis mutation screening.
5. Mitochondrial gene mutations: This panel of tests includes assays for the following point mutations, listed with their associated disease entities: 8344G (MERRF); 8356C (MERRF); 3243G (MELAS); 3271C or del (MELAS); 8993G or C (NARP); 11778A (LHON); 15257A (LHON); 3460A (LHON); and 14484C (LHON). In addition, a genomic Southern blot is performed to detect mitochondrial deletions associated with Kearns-Sayre syndrome.

Cases	*Completed*
Military	4,292
Civilian	94
Interdepartmental	566
Total	4,952

EDUCATION

Courses

Department staff participated in 1 non-AFIP course and 1 AFIP course in 2003.

Trainees

Department staff trained 9 individuals for a total of 210 training days.

Trainee category	*No. trained in 2003*	*Training days*
Pathology residents	6	120
Students	3	90
Total	9	210

Pathology residents from the combined Walter Reed/Bethesda residency program received one-month rotations in molecular genetic pathology. JK Taubenberger and JH Lichy each mentored summer students on a research project.

Faculty Appointments

1. Adjunct Faculty, Departments of Pathology and Genetics, Howard University Medical School, Graduate Advisor (one PhD student), JH Lichy.
2. Adjunct Faculty, Department of Pathology, Howard University Medical School, JK Taubenberger.
3. Adjunct Faculty, Department of Anatomy, Virginia Commonwealth University, Medical College of Virginia, Richmond, Va, JK Taubenberger.
4. Assistant Adjunct Professor of Pathology, USUHS, S McCall.
5. Consultant, Laboratory of Pathology, National Cancer Institute, Bethesda, Md, JK Taubenberger.

Presentations

1. January 2003: New York, NY, Mt. Sinai School of Medicine, "The 1918 influenza: an update," JK Taubenberger.
2. March 2003: Fairfax, Va, George Mason University, "The 1918 influenza and lessons for the future," JK Taubenberger.
3. March 2003: Washington, DC, George Washington University Department of Pathology, "Molecular pathology," JH Lichy.
4. March 2003: Rockville, Md, Johns Hopkins University, Medical and Scientific Aspects of Bioterrorism/Biowarfare Course, "Vaccine development for bioterrorist/biowarfare agents," AE Krafft.
5. March 2003: Rockville, Md, Johns Hopkins University, Medical and Scientific Aspects of Bioterrorism/Biowarfare Course, "Detection of biowarfare agents," AE Krafft.
6. April 2003: Rockville, Md, AFIP Long Course in Pathology, "Molecular pathology of neoplasia and infectious diseases," JH Lichy.
7. April 2003: Washington, DC, Howard University Department of Pathology, "Molecular pathology," JH Lichy.
8. April 2003: Rockville, Md, AFIP Annex, Laboratory Demonstration and Lecture to Howard University Graduate Students, JH Lichy.
9. May 2003: Washington, DC, AFIP Clinical Staff Conference, "Molecular Diagnostic Laboratory," JH Lichy.
10. June 2003: Bethesda, Md, NIH, NIAID Grand Rounds, "Characterization of the 1918 influenza and lessons for the future," JK Taubenberger.
11. June 2003: Manchester, NH, Annual Meeting of the Northeast Association for Clinical Microbiology and Infectious Diseases, Keynote Address, "The search for the 1918 'Spanish' influenza virus and lessons for the future," AH Reid.
12. June 2003: Bethesda, Md, USUHS, US Military Cancer Institute, "Molecular diagnostics at the AFIP," JH Lichy.
13. September 2003: San Antonio, Tex, DoD GEIS Annual Respiratory Viral Surveillance Meeting, S McCall, AE Krafft.
14. October 2003: Barcelona, Spain, First European Viral Vaccine Conference, Keynote Address, "The 1918 influenza," JK Taubenberger.
15. December 2003: Bethesda, Md, NCI, NIH, Medical Oncology Clinical Research Unit, "Molecular pathology at the AFIP," JH Lichy.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

Department staff were principal investigators on 9 AFIP research protocols, open as of December 31, 2003:

1. Comparison of 3 ST5 gene products in tumors: Q Liang.
2. Experimental measurements of blast trauma: S McCall.
3. Human ST5 gene in signal tranduction and carcinogenesis: JH Lichy.
4. Identification of influenza strains by molecular genetic techniques: JK Taubenberger.
5. Identification of the source of the 1918 influenza A strain by RT-PCR: JK Taubenberger.
6. Monitoring the response to cancer vaccines: JH Lichy.
7. Serial analysis of gene expression (SAGE) in developing B lymphocyte precursors: JK

Taubenberger.
8. Serial analysis of gene expression (SAGE): Z-M Sheng.
9. Serial analysis of gene expression: JK Taubenberger.

Research Funds Received

1. Human ST5 gene in signal transduction and cancer, $125,000, NIH.
2. Genetic characterization of the 1918 'Spanish' influenza virus, $175,000, NIH.
3. Surveillance for influenza and adenoviruses from fixed nasal swabs, $30,000, GEIS/WRAIR.

Collaborators

Military/Federal

1. Tony Beugelsdijk, PhD, Los Alamos National Laboratory, Los Alamos, NM.
2. Nancy Cox, PhD, CDC, Atlanta, Ga.
3. Joseph Esposito, PhD, CDC, Atlanta, Ga.
4. David Gillespie, MD, Department of Cardiovascular Surgery, WRAMC.
5. J. Silvio Gutkind, PhD, NIH, Bethesda, Md.
6. Kevin Holmes, PhD, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, Md.
7. Peter Jahrling, PhD, USAMRIID, Ft Detrick, Md.
8. Ann Marini, MD, PhD, Department of Neurology, USUHS, Bethesda, Md.
9. Constance T. Noguchi, PhD, Laboratory of Chemical Biology, NIH, Bethesda, Md.
10. George Peoples, MD, Department of Surgery, WRAMC.
11. Steve Rick, PhD, NCI, Frederick, Md.
12. David Swayne, DVM, PhD, US Department of Agriculture, Athens, Ga.
13. Sherif Zaki, MD, CDC, Atlanta, Ga.

Civilian

1. David Izon, PhD, University of Pennsylvania, Philadelphia, Penn.
2. Darlene Ketten, PhD, Woods Hole Oceanographic Institute, Woods Hole, Mass.
3. Kenneth W. Kinzler, MD, Johns Hopkins Oncology Center, Molecular Genetics Laboratory, Baltimore, Md.
4. Scott Layne, MD, UCLA, Los Angeles, Calif.
5. Sherry Li, MD, Department of Pathology, Columbia University College of Physicians and Surgeons, New York, NY.
6. Peter Palese, PhD, Department of Microbiology, Mt. Sinai School of Medicine, New York, NY.
7. Susan Ropp, PhD, South Dakota State University, Brookings, SD.
8. Adolfo Garcia-Sastre, PhD, Department of Microbiology, Mt. Sinai School of Medicine, New York, NY.
9. Xiao Shu, PhD, University of South Carolina Medical School, Columbia, SC.
10. Richard Slemons, DVM, PhD, Department of Pathology, Ohio State University, School of Veterinary Medicine, Columbus, Ohio.

International

1. Ian Brown, PhD, Weybridge Veterinary Laboratories Agency, Weybridge, Addlestone, UK.
2. Tomayoshi Hayashi, MD, PhD, Department of Pathology, Nagasaki University Hospital, Nagasaki, Japan.
3. Stephan Krus, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland.
4. Roman Pykalo, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland.
5. John Oxford, PhD, London Hospital, London, UK.

Interdepartmental

1. Department of Cardiovascular Pathology: research on role of infectious agents in atherosclerotic plaques and cardiomyopathies.
2. Department of Hematologic and Lymphatic Pathology: molecular genetic changes in lymphomas.
3. Department of Hepatic and Gastrointestinal Pathology, Division of Hepatic Pathology: Ras in vascular liver tumors, analysis of gene rearrangement status in inflammatory liver disease.

4. Department of Pulmonary and Mediastinal Pathology: molecular genetic changes in lung tumors.
5. Department of Soft Tissue Pathology: KIT mutations in gastrointestinal tumors, and evaluation of t(X;18) translocations in synovial sarcomas.
6. Department of Veterinary Pathology: molecular characterization of marine mammal morbilliviruses and papilloma viruses.

PROFESSIONAL ACTIVITIES

Official Trips

November 2003, Association of Molecular Pathology Annual Meeting, Dallas, Tex, JH Lichy, AE Krafft.

Professional Services

- Microbiology Chair, Northern Virginia Science and Engineering Regional Fair, March 2003, AE Krafft.
- Microbiology Team Leader, Yorktown High School Science Fair, Arlington, Va, February 2003, AE Krafft.
- Consulting Pathologist, Laboratory of Pathology, National Cancer Institute, NIH, JK Taubenberger.
- Member, Scientific Review Committee of US Military Cancer Institute, USUHS, JH Lichy.

Manuscripts Reviewed

1. *American Journal of Pathology* (4)
2. *Cancer* (4)
3. *Cancer Research* (4)
4. *International Journal of Cancer* (1)
5. *Biotechniques* (1)
6. *Journal of Virology* (5)
7. *New England Journal of Medicine* (1)
8. *Oncogene* (1)
9. *Science* (3)
10. *Virology* (3)
11. *Clinical Chemistry* (1)
12. *Journal of Molecular Diagnostics* (4)
13. *Molecular Diagnosis* (1)

Glenn D. Sandberg, LTC, MC, USA
Chair
Date of Appointment — October 2001

DEPARTMENT OF SCIENTIFIC LABORATORIES

(D) Christian D. Sepulveda, MSgt, USAF
Superintendent
Date of Appointment – August 2001

ORGANIZATION

The department consists of an administrative section and the following components:

Acquisitions Lab
Grossing Lab
Microtomy Lab
Special Stains Lab
General Immunology Lab
Special Immunology Lab
Neuromuscular Lab
Electron Microscopy Lab
Tri-Service School of Histotechnology
Glassware

The laboratories are organized to allow a STAT laboratory to handle consultative cases and a Research and Education Laboratory to provide services for research and education projects. This organization has significantly reduced turnaround time and distributed the workload more equitably throughout the laboratories.

STAFF

Professional/Scientific

Glenn D. Sandberg, LTC, MC, USA, Chair
(D) Lester Thompson, MD, DA, GS, Associate Chair

Administrative/Technical

Arnicia E. Downing, Chief, Scientific Labs
Efrain Perez-Rosario, Chief, Electron Microscopy Lab

IMPACT

The Department of Scientific Laboratories provides technical, consultative, and scientific services to the departments of the AFIP. Our services include basic and advanced histology techniques, scanning and transmission electron microscopy, and immunohistochemical tissue analyses. The department provides basic and advanced training in histology techniques to military and civilian personnel through the Tri-Service School of Histotechnology and the Annual Histopathology Techniques Seminar, respectively. All efforts are designed to ensure the highest medical and investigative science.

Arnicia E. Downing
Laboratory Chief
Date of Appointment — 23 September 1991

HISTOPATHOLOGY LABORATORIES

STAFF

Rossana Bailey, DAC, Histopathology Technician
George Barbour, HM1,Histopathology Technician
Betty Beal, VAMC, Histopathology Technician
Mildred Benton, ARP, Histopathology Technician
Freda Blake, VA-7, Histopathology Technician
(D) Romeo Boodhoo, HM3, Histopathology Technician
Todd Brown, SGT, USA, Histopathology Technician
Robert Calvo, HM2, Histopathology Technician
Mel Castro, DAC, Histopathology Technician
(D) Karma DaCosta, HM1, USN, Histopathology Technician
Timothy Davidson, USAF, Histopathology Technician
Mary Dyson, ARP, Histopathology Technician
Monte Grace, HM2, Histopathology Technician
Zahaitu Harvey, ARP, Histopathology Technician
Francine Hincherick, DAC, Histopathology Technician
Shirley V. Horton, ARP, Histopathology Technician
Brian Johnson, SSgt, USAF, Histopathology Technician
Ingrid Jones, DAC, Histopathology Technician
Clementine Kelson, ARP, Histopathology Technician
(D) Joseph Kemer, SPC, USA, Histopathology Technician
Wanda King, ARP, Histopathology Technician
Langston Lim, SSgt, USAF, Histopathology Technician
Charles Lattany, SSgt, Superintendent
Wilbur Maravilla, ARP, Histopathology Technician
Alejandro Morales, HM1, Histopathology Technician
Debra A. McElroy, DAC, Branch Chief
Warren McNeil, DAC, Histopathology Technician
Myra Miller, DAC, Histopathology Technician
Barbara Norfleet, DAC, Histopathology Technician
Oliver Onyebuchykwu, ARP, Histopathology Technician
Verna Pinkett, DAC, Histopathology Technician
Michael Proctor, DAC, Histopathology Technician
Juanita Rogers, ARP, Histopathology Technician
Joseph Rosamont, VA-11, Histopathology Technician
(D) Christian Sepulveda, TSgt, USAF, Histopathology Technician
Blair Slaughter, ARP, Histopathology Technician
Blondell Smith, DAC, Histopathology Technician
Paul Smith, ARP, Histopathology Technician
Michael Taylor, USAF, Histopathilogy Technician
Stacey Tamer, ARP, Histopathology Technician
Michael Vick, HM2, USN, Histopathology Technician
(D) Jack B. Wenger, DAC, Branch Chief
Julia Wilson, DAC, Program Director
Robert Wilson, DAC, Histopathology Technician

IMPACT

The Histopathology Laboratories provide histotechnical support and expertise to the pathology departments at the AFIP, and training in histotechniques to visiting professionals and technologists. To insure that the laboratories are capable of fully meeting their mission, the staff from the College of American Pathologists are invited to inspect every aspect of the operation of the laboratories.

In 2003, 61,153 works orders were completed, requiring the following procedures and special stains:

Blocks cut	38,730
H&E stains	85,291
Special stains	38,828
Unstain cut	71,047
Immuno cut	94,543
Immuno stain	77,506
Plastics	82
Frozen:slide repairs	828
Decals	177
X-rays	87
Total slides	407,119

EDUCATION

Courses/Presentations

Laboratory staff presented 60 didactic hours to participants in the Tri-Service School of Histotechnology course. In addition, several staff members lectured at state and regional professional meetings. Division staff made presentations at a Weekly Professional Staff Conference in 2003.

Training

1. Visiting pathologists and technologists received over 1,500 hours of training in a variety of laboratory techniques, including eye histotechnology, special staining methods for infectious organisms, and Warthin-Starry procedures for melanin and bacteria.
2. Orientation and advanced training were provided to 4 civilians and 25 incoming military personnel.

RESEARCH

Publications

Articles on modifications to histopathology laboratory procedures were submitted for publication in all editions of the *AFIP Letter*.

Projects

Our laboratories provide technical support for all approved research projects. Cost estimates are prepared based on CAP's workload unit costs, which include technician time, materials, and equipment.

This year, several manufacturers were invited to demonstrate technical equipment that has significantly advanced histology microslide production, including robotic stainers and coverslippers, improved warming tables, and cryostats. These items were evaluated by department staff and were available for inspection and trial by AFIP departments.

Charles Lattany III, SSgt, USAF
Course Superintendent
Date of Appointment – September 1996

Julia Wilson, BS, HT (ASCP)
Program Director
Date of Appointment – March 1997

TRI-SERVICE SCHOOL OF HISTOTECHNOLOGY

IMPACT

The Tri-Service School of Histopathology provides formal training to military and civilian students in the technical operations of anatomic pathology, as applied to histopathology laboratory and postmortem procedures.

EDUCATION

The school convenes annually and consists of 180 training days. It includes instruction in the theory and application of histotechnology and practical training in processing, cutting, and staining of tissue specimens and assisting in postmortem examinations. The course is administered by the Department of Scientific Laboratories and is coordinated through the School of Health Care Science at Sheppard AFB in Texas and the Naval School of Health Sciences at the National Naval Medical Center, Bethesda, Maryland. The school is also affiliated with the Department of Anatomic Pathology at Walter Reed Army Medical Center and Malcolm Grow Medical Center, Andrews AFB.

In 2001, the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS) awarded us a 5-year accreditation, valid through October 31, 2007. The NAACLS is a nonprofit organization that independently accredits histotechnology instructional programs, and is sponsored by the American Society of Clinical Pathologists (ASCP) and the American Society for Clinical Laboratory Sciences (ASCLS). Participants include the National Society of Histotechnology (NSH) and the Association of Genetic Technology (AGT).

Graduates of the Tri-Service School of Histotechnology are awarded certificates and AFSC 4T032 (Air Force) and NEC 8503 (Navy) classification codes. The Army currently has no histotechnician career field classification. Graduates may apply to take the certification exam as histologic technicians through ASCP.

Trainees

Navy	6
Air Force	12

Workload

Block Cut	3,554
H&E	6,444
Special Stain	4,741
Unstained Slides	1,272
Total	12,457

Efrain Perez-Rosario
Chief
Date of Appointment – August 1991

ELECTRON MICROSCOPY LABORATORIES

STAFF

Francine Hincherick, Research Biologist
Joseph Rosamont, Histologist
Mel Castro, DAC, Histopathology Technician
Alejandro Morales, HM2, Histopathology Technician

IMPACT

The Electron Microscopy Laboratories provide technical and scientific services to the AFIP, supporting the professional staff in consultation, research, and education with advanced technology in transmission electron microscopy (TEM), scanning electron microscopy (SEM), and scanning transmission microscopy (STEM).

CONSULTATION

We have 2 high-resolution (ZEISS-10A) electron microscopes and a scanning transmission electron microscope with an x-ray analyzer. We also have a new scanning electron microscope (ZEISS DSM 960A) with energy dispersive x-ray analyzer.

Transmission Electron Microscopy

Work orders completed 505
Total blockscut 2,359
Total grids cut 2,359
Total pre and post Slides cut 2,359
Total film developed ..... 5,404 negatives
Total prints made 18,006

(D) Lester Thompson, LCDR, MC, USN
Chief
Date of Appointment – March 1998

IMMUNOPATHOLOGY LABORATORY

STAFF

Administrative/Technical

(D) Gayle Andre, DAC, Branch Chief
Lawrence Faucette, HM1, Supervisor
Wanda King, ARP, Histopathology Technician
Stacey Tamer, ARP, Histopathology Technician
Todd Brown, SSgt, Histopathology Technician
(A) Verna Pinkett, DAC, Histopatholgy Technician

IMPACT

The Immunopathology Laboratory provides state-of-the-art immunohistochemical staining in support of diagnostic and prognostic markers in case consultation and Institute research. We also develop advanced tissue diagnostic techniques.

Workload

Immunology work orders	3239
Controls slides	17,802
Slides stained	26,433
Total	44,235

Special Immunology

Work orders	1,844
Slides stained	7,385

NEUROMUSCULAR LABORATORY

Valenzuela Ives
Supervisor
Date of Appointment – January 2003

STAFF

(A) Lim Langston, ARP, Histopathology Technician
Waheed Muhanned, ARP, Histopathology Technician
(D) Jane Williams, ARP, Research Assistant

Workload

Work orders	544
Frozen specimens	480
Formalin- fixed specimens	496
Glutaraldehyde-fixed specimens	542
Slides cut	5,760
Histochemistry slides cut	4,800
EM blocks embedded	4,799
EM blocks cut	1,045
Metabolic panels + special stains	2,207

ACQUISITIONS LAB

Raheema Al-Baqi
Supervisor
Date of Appointment – January 2003

STAFF

Juanita Rogers, ARP, Histopathology Technician
Ingrid Jones, DAC, Histopathology Technician

Workload

61,153 work orders

GROSSING LAB

Warren McNeil
Supervisor
Date of Appointment – January 2003

STAFF

Brown Johnson, TSgt, USA, Histopathology Technician

Workload

23,393 wet tissue grossed

GLASSWARE

Elizabeth Harvel
Supervisor
Date of Appointment – January 2003

Workload
57,600 glassware items washed

Kelly K. Koeller, CAPT, MC, USN
Chair
Date of Appointment — 8 January 2001

DEPARTMENT OF RADIOLOGIC PATHOLOGY

ORGANIZATION

The department is organized into 6 sections and the Office of the Chair.

1. Gastrointestinal Radiology
2. Genitourinary Radiology
3. Musculoskeletal Radiology
4. Neuroradiology
5. Pediatric Radiology
6. Pulmonary and Mediastinal Radiology

STAFF

Medical

(A) Geoffrey A. Agrons, MD, Chief, Pediatric Radiology, Contract Employee
Aletta A. Frazier, MD, Medical Illustrator, ARP
Jeffrey R. Galvin, MD, Chief, Pulmonary and Mediastinal Radiology, ARP
Leonard M. Glassman, MD, FACR, Chief, Mammography, MOU-Washington Radiology, Inc.
Kelly K. Koeller, CAPT, MC, USN, Chair and Chief, Neuroradiology
Angela D. Levy, LTC, MC, USA, Associate Chair and Chief, Gastrointestinal Radiology
(D) Gael J. Lonergan, Col, USAF, MC, Chief, Pediatric Radiology, MOU-USUHS
(A) John F. Carroll, MD, Junior Scientist, Musculoskeletal Radiology, ARP
Mark D. Murphey, MD, Chief, Musculoskeletal Radiology, ARP
(D) Eric A. Walker, MD, Junior Scientist, Musculoskeletal Radiology, ARP
(D) Anthony J. Wilson, MD, Distinguished Scientist, ARP
Paula J. Woodward, MD, Chief, Genitourinary Radiology, ARP

Administrative

(D) Janeth Amarillo, Digitization Specialist, ARP
Lewis S. Davis, HM1 (FMF) USN, NCOIC, Weekend Course Coordinator
Adahlia M. Glover, Case Manager, ARP
Donald F. Hatley, HM1 (FMF), USN, NCOIC, Administrative Support
Sharon Holquin, Digitization Technician/Archivist, ARP
Jessica Holquin, Digitization Technician/Specialist, ARP
Kathy M. Rahimly, Case Manager, ARP, Part-time
Alethia B. West, Case Management, Supervisor, ARP
Carl D. Williams, Course Coordinator and Categorical Course Coordinator, ARP
Ben Yohannes, Systems Manager, Contract Employee

IMPACT

In 2003, department staff made significant contributions to the education of military and civilian radiology residents and radiologists worldwide utilizing radiologic-pathologic correlation, and to a wide range of military activities at the AFIP. The department's world-renowned educational program, the 6-week Radiologic Pathologic Correlation Course, was held 5 times with nearly 1,200 radiology residents attending, with representation from all diagnostic radiology residency programs in the United States. This self-supporting course, which is the sole

source for all non-military department salaries, equipment, and expenditures, generated revenues of nearly $2M and does not receive substantial financial assistance from the DoD. The course also provided over 1,700 new cases to the nearly 35,000 cases held in the department's archives of radiologic pathologic correlation. This valuable repository is the basis for all of the research conducted by the department's faculty, leading to 20 peer-reviewed articles and more than 750 lectures presented in numerous radiological science symposia. The recent release of the 6-week course syllabus for public sale delivers the concepts of radiologic-pathologic correlation even to those who cannot attend the course. Expansion to a Web-based educational program is being actively pursued and promises even broader influence in radiology education. Military members of the department directly supported ongoing operations at the Dover Air Force Base Mortuary and for other cases emanating from the OAFME by providing expert interpretation of radiologic images submitted.

CONSULTATION

The department conducts only intramural radiologic consultation. Consultation was provided on 1,774 cases contributed by residents attending the Radiologic Pathology Correlation Courses, and 299 cases submitted by various AFIP pathology departments.

Contributions to Military Readiness

Military members of the department provided radiologic consultation in conjunction with the activities at the Dover Air Force Base Mortuary:

1. February 6, 2003, Space Shuttle Columbia recovery, KK Koeller.
2. March 25-27, 2003, Operation Iraqi Freedom, AD Levy.
3. March 26, 2003, Operation Iraqi Freedom, KK Koeller.
4. April 1, 2003, Operation Iraqi Freedom, AD Levy
5. April 2, 2003, Operation Iraqi Freedom, GJ Lonergan
6. April 4, 2003, Operation Iraqi Freedom, KK Koeller.
7. April 8, 2003, Operation Iraqi Freedom, AD Levy.
8. April 10, 2003, Operation Iraqi Freedom, KK Koeller.
9. November 4, 2003, Operation Iraqi Freedom, KK Koeller.

Special consultation at the request of the WRAMC Commanding Office was performed on May 29, 2003 in support of treatment for military service members wounded in Operation Iraqi Freedom.

EDUCATION

Courses

1. AFIP Radiologic Pathology Courses

• 6-week Radiologic Pathology Course: Five courses were conducted in 2003 and were attended by 1,130 radiology residents (44 federal, 1,086 nonfederal). Approximately 137 man-days of training were provided. The course remains subscribed nearly 2 years in advance and is now attended by virtually all civilian and military residents from every US civilian and military diagnostic radiology residency program. Two hundred eight residents from other countries also attended. The Radiologic Pathology Course is also offered to radiologists who have completed their training. A complete list of lectures provided by the department staff is located in the section titled Presentations.

• 1-week categorical courses (held within the 6-week Radiologic Pathology Courses): A total of 3 courses (Abdominal Imaging, Neuroradiology, and Musculoskeletal Radiology) offered 104 CME credit hours and were attended by 55 health professionals, who earned a total of 1,942 CME credit hours.

Course	*Enrollment*	*CME credit hours*
Abdominal Imaging	11	341
Neuroradiology	27	972
Musculoskeletal Radiology	17	629

• Weekend courses: One course was provided. A total of 99 health professionals attended for a total of 198 attendee-days.

Course	*Enrollment*	*CME credit hours*
Neuroradiology Washington	99	1,535

2. AFIP Courses in Collaboration with Foreign Radiological Societies

The department provided the curriculum and faculty for 3 international short courses held in Spain, Austria, and Portugal, sponsored by the radiological societies in those locales, in association with the AFIP and the ARP. Members of the department were also featured in specific sections within the course curricula of several major international radiological symposia in Brazil, Japan, France, and Canada. These courses ensured dissemination of the principles of radiologic-pathologic correlation to radiologists and physicians who do not traditionally participate in the department's Radiologic Pathology Courses. The courses were extremely well received and it is expected that these will continue on an annual basis. A complete list of lectures provided by the department staff is located in the section titled Presentations.

3. Radiologic Pathology Participation in Courses Held by Other AFIP Departments

Department staff provided lectures in courses hosted by the departments of Neuropathology and Genitourinary Pathology.

Trainees

Junior Scientists begin a one-year post-residency program in graduate medical education in selected subspecialty areas of radiology. The department provided this training to 2 radiologists in the Musculoskeletal Radiology section under the direction of the section chief, Dr. Mark Murphey, in 2003. Eric A. Walker, MD completed his Junior Scientist year in October 2003 and John F. Carroll, MD began his Junior Scientist year in July 2003. In addition, research assistants may collaborate on specific projects with the department's medical staff. Dr. Anna Quiles, a fourth-year radiology resident from Spain sponsored by Fundación XIII Congresso Internacional de Radiologia and Sociedad Espanola de Radiologia, collaborated with LTC Angela Levy, section chief of Gastrointestinal Radiology, on selected projects.

Faculty Appointments

GA Agrons:
Clinical Assistant Professor of Radiology, University of Pennsylvania School of Medicine, Philadelphia, Penn.

JR Galvin:
Clinical Professor, Department of Radiology, University of Maryland Medical System.

LM Glassman:
1. Clinical Professor, Department of Radiology, George Washington University School of Medicine.
2. Clinical Professor, Department of Radiology, Georgetown University School of Medicine.

KK Koeller:
Assistant Professor of Radiology and Radiological Sciences, USUHS.

AD Levy:
1. Department of Radiology, WRAMC.
2. Assistant Professor of Radiology and Radiological Sciences, USUHS.

GJ Lonergan:
Associate Professor of Radiology and Radiological Sciences and Pediatrics, USUHS.

MD Murphey:
1. Associate Professor, Radiology and Radiological Sciences, USUHS.
2. Clinical Professor, Department of Radiology, University of Maryland School of Medicine.

PJ Woodward:
1. Clinical Associate Professor of Radiology, University of Maryland School of Medicine.
2. Adjunct Associate Professor of Radiology, University of Utah School of Medicine.

Presentations

Department staff made 754 presentations during 2003, with 556 occurring within the department's 6-week Radiologic Pathologic Correlation Course and 84 in support of other courses produced by the department. Faculty members participated as visiting professors for 10 different academic institutions, made contributions to 11 courses hosted by other AFIP departments, and delivered 78 presentations in other venues.

Presentations in the 6-week Radiologic Pathology Course held 5 times in 2003:

GA Agrons:
• Lung Disease in Neonates: Radiologic-Pathologic Correlation

JR Galvin:
- Airway disease I
- Airway disease II
- An approach to diffuse lung disease I
- An approach to diffuse lung disease II
- Imaging in febrile bone marrow transplant
- Inhalation lung disease
- Lung carcinoma: who classification
- Lymphoid lesions
- Pulmonary angiitis and granulomatosis
- Pulmonary hypertension and infarction
- Staging of lung cancer
- The diagnosis of pulmonary embolism
- Seminars in chest radiology

LM Glassman:
- Breast pathology – what the radiologist needs to know
- Classic breast lesions
- Intraductal carcinoma (DCIS)

KK Koeller:
- Acquired white matter disease
- Cerebral ischemia
- Neuroimaging manifestations in the immunocompromised patient
- Uncommon neuroepithelial neoplasms
- Cerebral intraventricular neoplasms
- Congenital CNS anomalies
- Head trauma
- Suprahyoid neck
- Infrahyoid neck
- Congenital cystic neck masses
- Temporal bone I: anatomy and congenital lesions
- Temporal bone II: infection and neoplasms
- Orbit I: globe and conal lesions
- Orbit II: intraconal and extraconal lesions
- Seminars in neuroradiology

AD Levy:
- Abdominal manifestations of lymphoma
- Anorectal imaging
- Benign biliary disease
- Diffuse diseases of the small bowel
- Gastrointestinal polyposis syndromes
- Gastric and duodenal malignant neoplasms
- Infectious and parasitic disease of the abdomen I
- Infectious and parasitic disease of the abdomen II
- Non-neoplastic diseases of the stomach
- Tumors of the gallbladder and biliary tract
- The appendix: appendicitis and beyond
- Colorectal carcinoma
- Pancreatic neoplasms
- Diffuse liver disease
- Seminars in gastrointestinal radiology

GJ Lonergan:
- Adrenal tumors of childhood I
- Adrenal tumors of childhood II
- Cranial sonography
- Congenital heart disease I
- Congenital heart disease II
- Congenital heart disease III
- Congenital heart disease IV
- Cystic fibrosis
- Cystic renal disease of childhood

- Forensic radiology of child abuse I
- Forensic radiology of child abuse II
- Neonatal lung disease
- Pediatric nuclear medicine
- Radiology of situs
- Renal tumors of childhood
- Sickle cell anemia
- Seminars in pediatric radiology

MD Murphey:
- Alphabet soup: cystic lesions of bone
- Cartilaginous lesions of bone I
- Cartilaginous lesions of bone II
- Fibrous lesions of the musculoskeletal system I
- Fibrous lesions of the musculoskeletal system II
- Juxta-articular musculoskeletal masses I
- Juxta-articular musculoskeletal masses II
- Musculoskeletal angiomatous lesions
- Musculoskeletal infections I
- Musculoskeletal infections II
- Musculoskeletal manifestations of chronic renal insufficiency
- Musculoskeletal neoplasm: fundamental concepts I
- Musculoskeletal neoplasm: fundamental concepts II
- Osseous lesions of bone I
- Osseous lesions of bone II
- Paget disease
- Total joint replacement/bone graft
- Seminars in musculoskeletal radiology

AD Wilson:
- Radiology of cervical spine injuries
- Radiology of pelvic injuries
- Radiology of ankle injuries
- Radiology of gunshot injuries

PJ Woodward:
- Benign renal masses
- Fetal CNS malformations
- Fetal body malformations I
- Fetal body malformations II
- First trimester ultrasound
- Genitourinary trauma
- Malignant renal masses
- Retroperitoneum
- Uterine disorder I
- Uterine disorder II
- Seminars in genitourinary radiology

Presentations at Other Department of Radiologic Pathology Courses (84 total)

January 2003: Washington, DC, AFIP Weekly Professional Staff Conference

AJ Wilson:
- Radiology of gunshot injuries

February 2003: Bethesda, Md, 18th Annual Washington Neuroradiology Review Course

KK Koeller:
- Congenital CNS anomalies
- Cerebral intraventricular neoplasms

June 2003: Lisbon, Portugal, Sociedade Portuguesa de Radiologia e Medicina Nuclear - AFIP VIII Curso de Correlação Anátomo Radiológica

KK Koeller:
- Orbit: globe and conal lesions
- Orbit: intraconal and extraconal lesions
- Imaging of head trauma

• Uncommon neuroepithelial tumors
• Cerebral intraventricular neoplasms

AD Levy:
• Imaging of diffuse liver disease
• Update of liver disease
• Update on gastrointestinal lymphoma
• Imaging of gallbladder and biliary neoplasms
• Imaging of benign biliary disease

AJ Wilson:
• Imaging of cervical spine trauma
• Imaging of upper extremity trauma I
• Imaging of upper extremity trauma II
• Imaging of pelvic trauma
• Imaging of ankle injuries

PJ Woodward:
• Scrotum: testicular pathology
• Scrotum: extratesticular pathology
• Radiologic evaluation and staging of gynecologic malignancies
• Renal masses I
• Renal masses II

June 2003: Vienna, Austria, Österreichische Röntgengesellschaft-AFIP, 10th Radiologisches Fortbildungsseminar

KK Koeller:
• Orbit: globe and conal lesions
• Orbit: intraconal and extraconal lesions
• Imaging of head trauma
• Uncommon neuroepithelial tumors
• Neuroimaging manifestations in the immunocompromised patient
• Cerebral intraventricular neoplasms

AD Levy:
• Imaging of diffuse liver disease
• Update on liver disease
• Update on gastrointestinal lymphoma
• Imaging of gallbladder and biliary neoplasms
• Imaging of benign biliary disease
• Imaging of gastric neoplasms

AJ Wilson:
• Imaging of cervical spine trauma
• Imaging of pelvic trauma
• Imaging of upper extremity trauma I
• Imaging of upper extremity trauma II
• Imaging of lower extremity trauma I
• Imaging of lower extremity trauma II

PJ Woodward:
• Scrotum: testicular pathology
• Scrotum: extratesticular pathology
• Renal masses I
• Renal masses II
• Radiologic evaluation and staging of gynecologic malignancies
• Retroperitoneum

June 2003: Madrid, Spain, Fundación Espanola de Radiología-AFIP, XIV Curso Internacional de Correlación Radio-Patológica

KK Koeller:
• Orbit: globe and conal lesions
• Orbit: intraconal and extraconal lesions
• Imaging of head trauma

- Uncommon neuroepithelial tumors
- Neuroimaging manifestations in the immunocompromised patient
- Cerebral intraventricular neoplasms

AD Levy:
- Imaging of diffuse liver disease
- Update on liver disease
- Benign biliary disease
- Imaging of benign biliary disease
- Imaging of gallbladder and biliary neoplasms
- Imaging of gastric neoplasms

AJ Wilson:
- Imaging of cervical spine trauma
- Imaging of pelvic trauma
- Imaging of upper extremity trauma I
- Imaging of upper extremity trauma II
- Radiology of upper extremity trauma
- Imaging of lower extremity trauma I
- Imaging of lower extremity trauma II

PJ Woodward:
- Scrotum: testicular pathology
- Scrotum: extratesticular pathology
- Radiologic evaluation and staging of gynecologic malignancies
- Retroperitoneum
- Renal masses I
- Renal masses II

October 2003: Berlin, Germany, 5th Roentgen-Virchow Symposium

KK Koeller:
- Imaging of the temporal bone: infectious and neoplastic lesions
- Imaging of the suprahyoid neck
- Imaging of the infrahyoid neck
- Imaging of cerebral ischemia: the basics
- Cerebral intra-axial neoplasms
- Unknown neuroradiology case seminar

MD Murphey:
- Radiologic assessment of bone tumors: a systematic approach
- Common musculoskeletal infections
- Radiologic assessment of soft tissue tumors: a systematic approach
- Alphabet soup: cystic lesions of bone
- Imaging of stress fractures
- Unknown musculoskeletal case seminar

Other AFIP Pathology Departments' Courses

1. March 2003: Bethesda, Md, USUHS, 41st Annual Basic Science Course in Otolaryngology Head and Neck Surgery, "Imaging of the suprahyoid neck," KK Koeller.
2. April 2003: Bethesda, Md, USUHS, 41st Annual Basic Science Course in Otolaryngology Head and Neck Surgery, "Imaging of the infrahyoid neck," KK Koeller.
3. April 2003: Bethesda, Md, USUHS, 41st Annual Basic Science Course in Otolaryngology Head and Neck Surgery, "Congenital cystic neck masses," KK Koeller.
4. April 2003: Bethesda, Md, USUHS, 41st Annual Basic Science Course in Otolaryngology Head and Neck Surgery, "Temporal bone: anatomy and congenital lesions," KK Koeller.
5. April 2003: Bethesda, Md, USUHS, 41st Annual Basic Science Course in Otolaryngology Head and Neck Surgery, "Temporal bone: infections and neoplasms," KK Koeller.
6. May 2002: Bethesda, Md, AFIP Neuropathology Muscle Disorders Course and Workshop, "Magnetic resonance imaging of muscle," MD Murphey.
7. July 2003: Bethesda, Md, 37th Annual Urological Pathology Course, "Radiologic techniques," PJ Woodward.
8. July 2003: Bethesda, Md, 37th Annual Urological Pathology Course, "Approach to renal masses," PJ Woodward.
9. July 2003: Bethesda, Md, 37th Annual Urological Pathology Course, "Uroradiology un-

knowns," PJ Woodward
10. December 2003: Orlando, Fla, Pediatric Forensic Issues, "Radiology of pediatric head trauma," GJ Lonergan.
11. December 2003: Orlando, Fla, Pediatric Forensic Issues, "Basic radiology of child abuse," GJ Lonergan.

Visiting Professorships

1. February 2003: Augusta, Ga, Medical College of Georgia, "Radiology of gunshot injuries," "Radiology of cervical spine injuries," "Resident case review," AJ Wilson.
2. March 2003: New York, NY, New York Roentgen Ray Society Meeting and Visiting Professor at Beth Israel Medical Center, "Enchondroma vs. chondrosarcoma: fact and fiction," "Imaging of soft tissue tumors: a systematic approach," "Unknown cases," MD Murphey.
3. March 2003: Cleveland, Ohio, Cleveland Clinic, "Radiology of pelvic injuries," "Radiology of cervical spine injuries," "Radiology of ankle injuries," "Resident case review," AJ Wilson.
4. March 2003. Houston, Tex, Baylor School of Medicine, "GU/US board review," "Grand rounds – first trimester US," PJ Woodward.
5. March 2003: Livingston, NJ, Barnabas Medical Center, "Common juxta-articular masses," "Common musculoskeletal fibrous lesions," "Unknown cases," MD Murphey.
6. May 2003: Salt Lake City, Utah, University of Utah School of Medicine, "GU/US board review," PJ Woodward.
7. May 2003: Hamilton, Ontario, Queen's University, "Radiology grand rounds lecture: imaging of gastrointestinal stromal tumors," AD Levy.
8. August 2003: Salt Lake City, Utah, University of Utah School of Medicine, "Barium 101," PJ Woodward.
9. September 2003: University of California at San Diego Medical Center, "Uncommon neuroepithelial tumors," "Congenital cystic neck masses," KK Koeller.
10. November 2003: Hershey, Penn, Department of Radiology, Penn State College of Medicine, "Imaging of gastric malignancies," AD Levy.

Other Non-AFIP Courses

1. February 2003: Cancun, Mexico, Society of Gastrointestinal Radiology 32nd Annual Postgraduate Course and Scientific Meeting, "Gastrointestinal stromal tumors of the small intestine: CT features with pathologic correlation," AD Levy, HE Remotti, WM Thompson, LH Sobin, M Miettinen.
2. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Neuroimaging manifestations in the immunocompromised host," KK Koeller.
3. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Head trauma," KK Koeller.
4. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Brain neoplasms: intra-axial," KK Koeller.
5. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Cerebral ischemia: the basics," KK Koeller.
6. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Neoplasms of the spinal cord and filum terminale," KK Koeller.
7. February 2003: Waikoloa, Hawaii, 19th Annual Masters Radiology Conference, "Acquired white matter disease," KK Koeller.
8. February 2003: Seattle, Wash, Harborview Ground Rounds, "Radiology of gunshot injuries," AJ Wilson.
9. March 2003: Coronado, Calif, 26th Annual Meeting of the Society of Skeletal Radiology, "Imaging characteristics of tenosynovial and bursal chondromatosis," EA Walker, MD Murphey, AJ Wilson, JF Fetsch.
10. March 2003: Coronado, Calif, 26th Annual Meeting of the Society of Skeletal Radiology, "Imaging of rhabdomyosarcoma of the musculoskeletal system," K Motamedi, MD Murphey, JS Jelinek, JC Fanburg-Smith.
11. March 2003: Coronado, Calif, 26th Annual Meeting of the Society of Skeletal Radiology, "Imaging of higher grade liposarcoma with pathologic correlation," MD Murphey, DJ Flemming, JS Jelinek, HT Temple, AM Levine, AH Torop.
12. March 2003: Coronado, Calif, 26th Annual Meeting of the Society of Skeletal Radiology, "MR evaluation of subacromial injections," DJ Flemming, M Kuhn, FX McGuigan, MD Murphey.

13. March 2003: Washington, DC, Pulmonary Pathology Society Companion Meeting to the US/Canadian Academy of Pathology Meeting, "Radiological and clinical features of idiopathic interstitial pneumonias," JR Galvin.
14. March 2003: Cincinnati, Ohio, 30th Annual Felson Lecture, University of Cincinnati, College of Medicine, "The idiopathic interstitial pneumonias: the central role of imaging," JR Galvin.
15. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "MRI of muscle," MD Murphey.
16. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "Overview of soft tissue tumors," MD Murphey.
17. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "Radiology of gunshot injuries," AJ Wilson.
18. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "Radiology of cervical spine injuries," AJ Wilson.
19. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "Congenital and inflammatory disorders of the biliary tract," AD Levy.
20. April 2003: Bethesda, Md, USUHS, 2003 Army Medical Department Problem Oriented Radiology Course, "Congenital CNS anomalies," KK Koeller.
21. April 2003: Scottsdale, Ariz, Skeletal Radiology 2003, "Ballistics for radiologists," AJ Wilson.
22. April 2003: Scottsdale, Ariz, Skeletal Radiology 2003, "Pearls and pitfalls in vertebral trauma," AJ Wilson.
23. April 2003: Scottsdale, Ariz, Skeletal Radiology 2003, "Pearls and pitfalls in upper extremity trauma," AJ Wilson.
24. April 2003: Scottsdale, Ariz, Skeletal Radiology 2003, "Pearls and pitfalls in lower extremity trauma," AJ Wilson.
25. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Radiology of pelvic injuries," AJ Wilson.
26. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Radiology of cervical spine injuries," AJ Wilson.
27. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Radiology of ankle injuries," AJ Wilson.
28. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Musculoskeletal case seminar," AJ Wilson.
29. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Pathology of breast cancer," LM Glassman.
30. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Mammography of malignant masses," LM Glassman.
31. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Mammography of malignant calcifications," LM Glassman.
32. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Ductal carcinoma in situ," LM Glassman.
33. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Ultrasound of breast cancer including screening," LM Glassman.
34. May 2003: Sao Paulo, Brazil, 33rd Annual Jornada Paulista de Radiologia, "Discussion of cases in mammography," LM Glassman.
35. May 2003: San Diego, Calif, American Roentgen Ray Society 103rd Annual Meeting, "Gastric lipomas: imaging characteristics in 16 patients," WM Thompson, AI Kende, AD Levy.
36. May 2003: San Diego, Calif, American Roentgen Ray Society 103rd Annual Meeting, "Radiology of penetrating trauma," "Radiology of lower extremity injuries," AJ Wilson.
37. May 2003: San Diego, Calif, American Roentgen Ray Society 103rd Annual Meeting, "Osteomyelitis and septic arthritis," MD Murphey.
38. May 2003: Seattle, Wash, 99th Conference of the American Thoracic Society, "Practical chest imaging for the pulmonologist," JR Galvin.
39. May 2003: Seattle, Wash, 99th Conference of the American Thoracic Society, "Report of ATS workshop on idiopathic nonspecific interstitial pneumonia," JR Galvin.
40. May 2003: Seattle, Wash, 99th Conference of the American Thoracic Society, "Master clinicians: pulmonary fibrosis," JR Galvin.

41. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Introduction to bone tumors," MD Murphey.
42. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Cartilaginous lesions," MD Murphey.
43. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Chondrosarcoma," MD Murphey.
44. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Angiomatous lesions," MD Murphey.
45. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Paget disease," MD Murphey.
46. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Malignant fibrous lesions," MD Murphey.
47. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Mets, myeloma and lymphoma," MD Murphey.
48. May 2003: Washington, DC, International Institute for Continuing Medical Education, Inc, Bone and Soft Tissue Tumors, "Unknown musculoskeletal cases," MD Murphey.
49. May 2003: Boston, Mass, Harvard Review of Radiology, "Congenital heart disease," GJ Lonergan.
50. June 2003: Montreal, Quebec, 10th Congress of the World Federation for Ultrasound in Medicine and Biology, "Symposium: native kidneys – review and update," PJ Woodward.
51. July 2003: Nagoya, Japan, Japanese College of Radiology Mid-Summer Annual Seminar, "Acquired white matter disease," KK Koeller.
52. July 2003: Nagoya, Japan, Japanese College of Radiology Mid-Summer Annual Seminar, "Imaging of head trauma," KK Koeller.
53. September 2003: San Diego, Calif, San Diego Radiological Society, "Cerebral intraventricular neoplasms," KK Koeller.
54. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Imaging characteristics of tenosynovial and bursal chondromatosis," EA Walker, MD Murphey, AJ Wilson, JF Fetsch.
55. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Case 30," AJ Wilson, MD Murphey, JC Fanburg-Smith.
56. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Case 33," MD Murphey, JC Fanburg-Smith, AJ Wilson.
57. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Case 34," JC Fanburg-Smith, MD Murphey, AJ Wilson.
58. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Imaging of liposarcoma," MD Murphey.
59. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Session X: chordoma, vascular lesions and the histiocytosis," MD Murphey, C Inwards, CL Wold.
60. September 2003: San Francisco, Calif, International Skeletal Society 2003 Meeting, "Aneurysmal bone cyst: primary and secondary," MD Murphey.
61. October 2003: Halifax, Nova Scotia, Atlantic Radiology Conference, "Hepatic infections: radiologic-pathologic correlation," AD Levy.
62. October 2003: Halifax, Nova Scotia, Atlantic Radiology Conference, "Gallbladder and biliary neoplasms: radiologic pathologic correlation," AD Levy.
63. October 2003: Halifax, Nova Scotia, Canadian Association of Radiology 66th Annual Scientific Meeting, "Liver neoplasms: radiologic-pathologic correlation," AD Levy.
64. October 2003: Halifax, Nova Scotia, Canadian Association of Radiology 66th Annual Scientific Meeting "Imaging of diffuse liver disease: radiologic-pathologic correlation," AD Levy.
65. October 2003: Washington, DC, Musculoskeletal Ultrasound Society 13th Annual Conference, "Soft tissue tumors: what does ultrasound have to offer?" MD Murphey.
66. October 2003: Paris, France, Journées Françaises de Radiologie, "Neonatal lung disease," GJ Lonergan.
67. October 2003: Paris, France, Journées Françaises de Radiologie, "Renal tumors of childhood," GJ Lonergan.
68. October 2003: Paris, France, Journées Françaises de Radiologie, "Radiologic staging of gynecologic malignancies," PJ Woodward.

69. October 2003: Paris, France, Journées Françaises de Radiologie, "Sickle cell anemia," GJ Lonergan.
70. October 2003: Paris, France, Journées Françaises de Radiologie, "Benign renal masses," PJ Woodward.
71. October 2003: Paris, France, Journées Françaises de Radiologie, "Extratesticular scrotal masses," PJ Woodward.
72. October 2003: Orlando, Fla, American College of Rheumatology, "Imaging of arthritis," MD Murphey.
73. November 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Angiosarcoma of the spleen: imaging characteristics in 12 patients," WM Thompson, AD Levy, NS Aguilera, L Gorospe, RM Abbott.
74. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Imaging characteristics of dedifferentiated chondrosarcoma," EA Walker, MD Murphey, AJ Wilson, F Gannon, JF Carroll.
75. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Facing the new threats of terrorism: a radiologist's perspective," J Sosna, T Sella, D Shaham, JR Galvin.
76. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Imaging of congenital heart disease," GJ Lonergan.
77. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Malignant neoplasia: a primer of primaries," KK Koeller, JR Galvin, AD Levy, PJ Woodward, GA Agrons, MD Murphey.
78. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Musculoskeletal infection: concepts and imaging strategies," "Musculoskeletal imaging: exploring new limits," MD Murphey, LW Bancroft, JJ Peterson.
79. December 2003: Chicago, Ill, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Imaging of mesenchymal chondrosarcomas with emphasis on CT and MR and comparison of radiologic and pathologic findings," RP Moser, MD Murphey, AJ Wilson, F Gannon, EA Walker, JF Carroll.

Scientific Exhibits

1. February 16 - 21, 2003: Cancun, Mexico, Society of Gastrointestinal Radiology 32nd Annual Postgraduate Course and Scientific Meeting, "Malignant melanoma of the gastrointestinal tract: imaging features with pathologic correlation," KM Ayotte, RM Abbott, AD Levy, WM Thompson.
2. February 16 - 21, 2003: Cancun, Mexico, Society of Gastrointestinal Radiology 32nd Annual Postgraduate Course and Scientific Meeting, "Imaging features of gastrointestinal lipomas," WM Thompson, AI Kende, AD Levy.
3. November 29 - December 5, 2003: Chicago, Ill, Radiologic Society of North America 89th Scientific Assembly and Annual Meeting, "Imaging features of gastrointestinal lipomas," WM Thompson, AI Kende, AD Levy.
4. November 30 - December 5, 2003: Chicago, Ill, Radiologic Society of North America 89th Scientific Assembly and Annual Meeting, "Imaging characteristics of dedifferentiated chondrosarcoma," EA Walker, JF Carroll, MD Murphey, AJ Wilson, FH Gannon.
5. November 30 - December 5, 2003: Chicago, Ill, Radiologic Society of North America 89th Scientific Assembly and Annual Meeting, "Expanding the radiology educational enterprise by operating a digital library as a digital press: a decade of experience with virtual hospital," MP D'Allessandro, JR Galvin, WE Erkonen, TA Choi, GM Johnson, DM D'Alessandro.

Departmental Conferences (695 Total)

Intramural

Gastrointestinal Radiology:

2 (2 hours) per month, Gastrointestinal Pathology Conference

1 (1.5 hour) per month, Endocrine Pathology Conference

2 (2 hour) per year, Hematopathology Conference

1 (1 hour) per month, Hepatic Pathology Conference

Genitourinary Radiology:
3 (2 hours) per month, Genitourinary Pathology Conference
1 (1.5 hour) per month, Endocrine Pathology Conference

Mammography:
6 (1 hour) per year, Gynecologic and Breast Pathology Conference

Musculoskeletal Radiology:
16 (1 hour) per month, Orthopedic Pathology Conference
4 (1 hour) per month, Soft Tissue Pathology Conference
4 (1 hour) per year, Oral and Maxillofacial Pathology Conference

Neuroradiology:
3 (1 hour) per month, Neuropathology Conference
1 (1 hour) per month, Otolaryngic Pathology – Oral Maxillofacial Pathology Conference

Pediatric Radiology:
1 (1 hour) per month, Pediatric Pathology Conference
1 (1 hour) per month, Pulmonary and Mediastinal Pathology Conference

Pulmonary and Mediastinal Radiology:
2 (2 hours) per month, Pulmonary and Mediastinal Pathology Conference
6 (1 hour) per year, Cardiovascular Pathology Conference

Extramural

Gastrointestinal Radiology:
1 (1 hour) per year, Department of Pathology, USUHS
1 (1 hour) per year, Department of Anatomy, USUHS

Genitourinary Radiology:
1 (1 hour) per year, Department of Radiology MS-II core curriculum, USUHS

Musculoskeletal Radiology:
4 (1.5 hours) conferences per month, Orthopedic Resident Conference, WRAMC
4 (1 hour) conferences per month, Rheumatology Conference, WRAMC
1 (1 hour) conference per month, Rheumatology Conference, NIH
1 (1 hour) conference per month, Rheumatology Conference, Washington Hospital Center
1 (1 hour) conference per month, Radiology Residents Conference, University of Maryland

Medical Center:
4 (1 hour) conferences per month, Orthopedic Oncology/Radiology/Pathology Conference, Sinai Medical Center, Baltimore, Md
10 (1 hour) conferences per year, Sports Medicine and Arthroscopy Conference, NNMC

Pulmonary Radiology:
1 (2 hours) per week, Pulmonary Medicine Conference, WRAMC

Seminars (223 total)

Gastrointestinal Radiology:
26 (1 hour) per year, Department of Radiology, USUHS
2 (1 hour) per year, Department of Radiology, WRAMC
5 (1 hour) per year, Department of Gastroenterology, WRAMC

Genitourinary Radiology:
1 (1 hour) per month, Urology Fellows Conference, University of Maryland Medical Center
1 (1 hour) per month, Internal Medicine Fellows Conference, University of Maryland Medical Center
1 (1 hour) per year, Radiology Department, WRAMC
4 (1 hour) per month, Residents Conference, University of Maryland Medical Center
4 (1 hour) per month, Fellows Conference, University of Maryland Medical Center
20 (1 hour) per year, Residents Conference, University of Utah

Musculoskeletal Radiology:
2 (1 hour) per year, Radiology Department, WRAMC
8 (1 hour) per year, USUHS

Neuroradiology:
2 (1 hour) per year, WRAMC
1 (1 hour) per year, NNMC
1 (1 hour) per year, USUHS

Pediatric Radiology:
3 (1 hour) per year, NNMC
3 (1 hour) per year, WRAMC
24 (1 hour) per year, USUHS

Pulmonary and Mediastinal Radiology:
5 (1 hour) per year, University of Maryland Medical Center

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

Research is based on the contents of the departmental archives, which are mainly derived from cases contributed by residents attending the Radiologic Pathology Courses.

Investigative:

1. AD Levy, PR Ros. Magnetic resonance imaging of solid and pseudopapillary neoplasms of the pancreas.
2. AD Levy, JS Statler, LD Thompson. Lymphoepithelial cysts of the pancreas: radiologic-pathologic correlation.
3. AD Levy, SM Abbodanzo, RM Abbott. Littoral cell angioma of the spleen: imaging features with clinical and pathologic correlation.
4. AD Levy, HE Remotti, WM Thompson, LE Sobin, M Miettenen. Gastrointestinal stromal tumors: radiologic-pathologic correlation.
5. AD Levy, A Quiles, N Dow, M Miettinen, LH Sobin. Gastrointestinal schwannomas.
6. AD Levy, N Patel, RM Abbott, N Dow, M Miettinen, LH Sobin. Gastrointestinal stromal tumors occurring in patients with neurofibromatosis.
7. GJ Lonergan. Comparison of fracture age dating at radiology versus histology.
8. GJ Lonergan. Cystic extralobar sequestration: correlation with associated cystic adenomatoid malformation.
9. MD Murphey. Imaging of periosteal osteosarcoma: radiologic-pathologic correlation.
10. MD Murphey. Imaging of primary chondrosarcoma: radiologic-pathologic correlation.
11. MD Murphey. Imaging of soft tissue myxoma.
12. WM Thompson, AI Kende, AD Levy. Gastrointestinal lipomas.
13. WM Thompson, AD Levy, NS Aguilar. Splenic angiosarcoma.

Educational:

1. Koeller KK. Medulloblastoma: radiologic-pathologic correlation.
2. Koeller KK. Posterior fossa neoplasms: radiologic-pathologic correlation.
3. Levy AD, Rohrmann CR. Biliary cystic disease.
4. Levy AD. The stomach: radiologic-pathologic correlation.
5. Levy AD, Rohrmann CR. Diseases of the gallbladder and bile ducts.
6. Levy AD, Abbott RM, Aguilar NS. Imaging of vascular neoplasms of the spleen.
7. Levy AD, Abbott RM, Ayotte KM, Thompson WM. Malignant melanoma of the gastrointestinal tract: radiologic features with pathologic correlation.
8. Levy AD, Cantisani V, Miettinen M. Abdominal lymphangiomas.
9. Levy AD, Hobbs C. Meckel's diverticulum.
10. Levy AD, Patel N, Abbott RM, Dow N, Miettinen M, Sobin LH. Abdominal manifestations of neurofibromatosis.
11. Schwab CM, Glassman LM. Breast lesions in young women and children.
12. Schwab C, Woodward PJ. Urachal carcinoma.
13. Woodward PJ, Schwab C, Sesterhenn IA. Extratesticular scrotal masses.
14. Woodward PJ, Hosseinzadeh K, Saenger JS. Radiologic staging of ovarian carcinoma with pathologic correlation.

Collaborators

Military/Federal

1. Department of Radiology and Radiological Sciences, USUHS
2. Robert M. Abbott, Lt Col, USAFR, MC, Wilford Hall Medical Center, San Antonio, Tex
3. Karen M. Ayotte, Capt, USAF, MC, Wilford Hall Medical Center, San Antonio, Tex
4. Donald J. Fleming, CAPT, MC, USN, NNMC
5. H. Theodore Harcke, COL, MC, USNG, E.I. duPont Hospital for Children, Wilmington, Del
6. Perry J. Pickhardt, LCDR, MC, USN, NNMC

Civilian

1. American College of Radiology
2. American Osteopathic College of Radiology
3. American Roentgen Ray Society
4. Association of University Radiologists
5. Association of Program Directors in Radiology
6. Department of Radiology, University of Maryland Medical Center
7. Radiological Society of North America
8. Koenraad J. Mortele, MD, Brigham and Women's Hospital, Boston, Mass
9. Charles A. Rohrmann, Jr., MD, University of Washington, Seattle, Wash
10. Pablo R. Ros, MD, MPH, Brigham and Women's Hospital, Harvard University, Boston, Mass
11. William M. Thompson, MD, Duke University, Durham, NC

International

1. Canadian Association of Radiology, Montreal, Quebec
2. Curso de Correlação Anatomo-Radiologica, Lisbon, Portugal
3. Fundación XIII Congreso Internacional de Radiologica, Madrid, Spain
4. Japanese College of Radiology, Nagoya, Japan
5. Jornada Paulista de Radiologica, Sao Paulo, Brazil
6. Journées Française de Radiologie, Paris, France
7. Österreichische Röntgengesellschaft, Vienna, Austria
8. World Federation for Ultrasound in Medicine and Biology, Montreal, Quebec
9. Vito Cantisani, MD, University La Sapienza, Rome, Italy
10. Ana Quiles, MD, Barcelona, Spain
11. Cornelia M. Schwab, MD, Bern, Switzerland

PROFESSIONAL ACTIVITIES

Official Trips

1. March 4-7, 2003, 26th Annual Meeting of the Society of Skeletal Radiology, Coronado, Calif, MD Murphey, EA Walker, AJ Wilson (ARP).
2. April 1-4, 2003, Army Medical Department Problem Oriented Radiology Course, USUHS, Bethesda, Md, KK Koeller, AD Levy, MD Murphey, AJ Wilson (AFIP).
3. April 8-10, 2003, Skeletal Radiology 2003, Scottsdale, Ariz, AJ Wilson (ARP).
4. May 1, 2003, Jornada Paulista de Radiologia, Sao Paulo, Brazil, LM Glassman, AJ Wilson (ARP).
5. June 14-16, 2003, Sociedade Portuguesa de Radiologia e Medicina Nuclear-AFIP VIII Curso de Correlação Anátomo Radiológica, Lisbon, Portugal, KK Koeller, AD Levy, AJ Wilson, PJ Woodward (ARP).
6. June 18-21, 2003, Österreichische Röntgengesellschaft-AFIP, 10th Radiologisches Fortbildungsseminar, Vienna, Austria, KK Koeller, AD Levy, AJ Wilson, PJ Woodward (ARP).
7. June 23-26, 2003, Fundación Espanola de Radiología-AFIP, XIV Curso Internacional de Correlación Radio-Patológica, Madrid, Spain, KK Koeller, AD Levy, AJ Wilson, PJ Woodward (ARP).
8. July 26-27, 2003, Japanese College of Radiology Mid-Summer Annual Seminar, Nagoya, Japan, KK Koeller (ARP).
9. September 14-19, 2003, International Skeletal Society 2003 Meeting, San Francisco, Calif,

MD Murphey (ARP).
10. October 2, 2003, Atlantic Radiology Conference, Halifax, Nova Scotia, AD Levy (ARP).
11. October 3, 2003, Canadian Association of Radiology 66th Annual Scientific Meeting, Halifax, Nova Scotia, AD Levy (ARP).
12. October 18, 2003, Journées Françaises de Radiologie, Paris, France, PJ Woodward (ARP).
13. October 23-25, 2003, 5th Roentgen-Virchow Symposium, Berlin, Germany, KK Koeller, MD Murphey (ARP).
14. October 27, 2003, American College of Rheumatology, Orlando, Fla, MD Murphey (ARP).
15. November 30-December 5, 2003, 89th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, Ill, KK Koeller, AD Levy, DF Hatley, Jr. (AFIP); JR Galvin, AA Frazier, MD Murphey, PJ Woodward, CD Williams, AB West (ARP).

Manuscripts Reviewed

In 2003, department staff reviewed articles for the following professional journals:

1. *RadioGraphics*
2. *American Journal of Roentgenology*
3. *Radiology*
4. *Pediatric Radiology*
5. *Journal of Computer Assisted Tomography*
6. *Skeletal Radiology*
7. *Journal of Magnetic Resonance*
8. *Cancer*
9. *Ultrasound in Obstetrics and Gynecology*

Editorial Boards

JR Galvin:

1. Deputy Editor, *RadioGraphics*
2. Associate Editor, Education Center Materials, Radiological Society of North America

KK Koeller:

1. *Radiologic Pathology*
2. Editor, American College of Radiology CD-ROM Learning Disk, Neuroradiology, 2nd edition

AD Levy:

Associate Editor, *Yearbook of Diagnostic Radiology*

MD Murphey:

Skeletal Radiology

PJ Woodward:

RadioGraphics

Francis Gannon, MD
Chair
Date of Appointment — 1 November 2001

Annette R. Anderson, MS, RHIA
Associate Chair
Date of Appointment — 14 November 1994

DEPARTMENT OF REPOSITORY AND RESEARCH SERVICES

ORGANIZATION

The department is organized into 5 entities:

1. Office of the Chair
2. Research Services Division
3. Case Materials Accountability Division (CMAD)
4. Records Repository
5. Materials Repository

IMPACT

The Department of Repository and Research Services provides administrative support to the Institute by:

1. Maintaining the AFIP Repository, consisting of over 2.9 million case files and associated paraffin blocks, microscopic glass slides, and formalin-fixed tissue specimens.
2. Receiving and accessioning case materials.
3. Receipting for all express and courier mail and providing a case pick-up and delivery service throughout the Institute.
4. Responding to outside requests for release of medical information and pathologic materials.
5. Coding and entering pathologic diagnoses and case demographic data into the Institute's research database.
6. Performing administrative quality review of case files following final report.
7. Obtaining patient follow-up information for clinicopathologic correlation studies.
8. Conducting periodic quality assurance audits to ensure case record completeness, the integrity of the research database, and the accurate tracking of case materials.
9. Coordinating research protocol administrative requirements including review, approval, and monitoring of research activities by the various Institute research-related committees, including the Institutional Review Board (IRB), the Institutional Animal Care and Use Committee (IACUC), and the Research Committee.
10. Publishing the Institute annual research progress report, periodically updating other research-related publications, and preparing reports as required for outside monitoring agencies.
11. Maintaining a repository of pathologic materials from closed military medical facilities in accordance with applicable DoD regulations and federal statutes.
12. Serving as Institute Coordinator for the Partnership Program with Rock Terrace High School, Rockville, Md.
13. Providing budgetary monitoring and policy guidance for the DoD Automated Central Tumor Registry (ACTUR) and hosting the annual DoD Cancer Registrars Training Conference.
14. Providing management support, policy guidance, and overall budgetary and quality assurance monitoring for the Institute's digital imaging contract.

OFFICE OF THE CHAIR

Dr. Francis Gannon is a credentialed pathologist in the Department of Orthopedic Pathology. All data pertaining to his consultative, educational, and research efforts during 2003 are reported with that department's annual report.

The following programs and initiatives affect more than one division, or are special programs managed out of the Office of the Chair.

Digital Imaging Effort: This year the pilot digital imaging initiative contracted for last year with Information Manufacturing Corporation was completed, with the successful materials inventory and digital imaging of paper records from 4 closed military medical facilities. A follow-on contract was awarded for the digital imaging of paper records for almost all remaining bases. Additionally, pilot task orders were included in the new contract to demonstrate the feasibility and to begin the imaging of the Institute's Department of Legal Medicine claims files and the main repository paper records. By the end of the year, the software to accommodate these additional imaging tasks had been tested and accepted and the Institute began to accept and process images under these task orders. Also, images from 2 additional bases had been accepted and processed. Work has now begun on drafting an expansion of this contract for the coming year to include additional digital imaging initiatives.

DoD Cancer Registry Program: Substantial progress was made this year in improving the quality and completeness of DoD Cancer Registry Program data. Highlights of the program during 2003 are as follows:

- A very successful annual training conference for DoD Tumor Registrars was held in Pittsburgh, Penn in May 2003. Comments received from the registrants concerning the quality of the conference and the overall experience were some of the best ever received for this annual training.
- The IMPATH training software for the central registry function was customized to DoD specifications and delivered. It was tested and accepted. A contract for the implementation and management of the DoD Central Registry was awarded to ORC-Macro, which established an office at the AFIP and began work in October 2003. This contract requires that all data in the Automated Central Tumor Registry (ACTUR) for the years 1998 through 2003 be reviewed for eventual upload into the Central Registry. By the end of the year, many of the procedural issues had been worked out and the contractor had reviewed all the 1998 data and forwarded it to the applicable military medical facilities for correction as appropriate.
- The new case finding program within the Composite Health Care System (CHCS) was implemented and instructions were forwarded to all registrars to use this report to increase case finding results.
- The conversion from ROADS to FORDS took place as smoothly as could be expected, with many enhancements made within the ACTUR software to make this possible. Additionally, the capability to perform survivor analysis was added to ACTUR by EDS by obtaining a license and working with SAS Corporation. This capability will be available in the new ACTUR release distributed in early 2004.

Rock Terrace School Partnership Program: The Institute's long-standing relationship with Rock Terrace High School continued in 2003. Approximately 15 students worked at the Institute as volunteer aides and paid part-time workers. Most of the students worked in the Materials Repository Division and the Records Repository Division. The students continued their labor-intensive project of inventorying the case folders within the Records Repository and updating the PIMS locator system with the information. They also assisted in breaking down bulk return of slides into appropriate groupings for eventual acknowledgement and filing. This year they also began a routine program of shredding patient-identifiable documents and assisting in accounting for production statistics under the digital imaging contract.

HIPAA Implementation: The Associate Chair spearheaded the initial HIPAA training implementation effort and all AFIP personnel completed the DoD-mandated on-line training modules by the established deadlines. In addition, a series of checklists were developed and risk assessments conducted in all departments by members of the HIPAA Compliance Committee. Mechanisms were also established with the Legal Officer and the Agreements Manager for processing any requests for Business Associate Agreements (BAAs). Also, draft forms developed by the DoD Tricare Office for use in complying with HIPAA requirements were adapted for use by AFIP.

RESEARCH SERVICES DIVISION

STAFF

Annette R. Anderson, MS, RHIA, Associate Chair
Chonte' Long, Secretary

IMPACT

The Research Services Division supports the AFIP by:

1. Reviewing and processing protocols and educational projects submitted by AFIP staff for approval and funding.
2. Ensuring protocol administrative requirements are met and maintaining official protocol files.
3. Coordinating activities of the AFIP Research Committee, Institutional Review Board (IRB), and Institutional Animal Care and Use Committee (IACUC).
4. Performing annual protocol reviews, conducting semiannual laboratory animal facility inspections, drafting meeting minutes, preparing committee action documents and notices to investigators, and preparing required reports for various accrediting and oversight organizations.
5. Monitoring the status of conditionally approved projects and publishing a monthly status report of all active protocols within the Institute.
6. Coordinating publication of the AFIP Annual Research Progress Report and the Institute's Annual Report to Congress on Laboratory Animal Care and Use.

ACTIVITIES

In 2003, the Research Program included 269 in-house projects, extramural grants, research contracts, and agreements. This is a 7% decrease from the previous year and continues the downward trend in the number of active projects over the past several years as resources and staff became tighter and greater emphasis was placed on military relevance in research activities.

Institutional Animal Care and Use Committee (IACUC): The committee met formally 6 times in 2003 and reviewed 10 new protocols. This is a decrease from the prior year due to the continued renovation of the fifth floor facilities and the uncertainty concerning when the BSL-3 laboratories will be back on-line for animal work. Semiannual facility inspections were conducted in May and November of 2003 and the DoD Report to Congress was successfully submitted for 2002. IACUC members were given a tour of the new BSL-3 facilities and were impressed with the ongoing modernization efforts.

Institutional Review Board (IRB): The Board met formally 5 times in 2003. It reviewed and approved a total of 25 new protocols in a combination of expedited, full, and exempted reviews. This is a substantial decrease from the previous year. The IRB also served as the HIPAA Privacy Board and reviewed all HIPAA policies and procedures being developed at the Institute and stayed abreast of HIPAA implementation progress in conjunction with the HIPAA Compliance Committee.

Research Committee: The committee met 4 times in 2003. During the year it reviewed and approved 39 new protocols under a combination of expedited review and full review approval procedures. This is a substantial decrease from the previous year. One of the 4 meetings was a special meeting to discuss potential new protocol review procedures and a rank ordering process based on both scientific merit and military relevance as a result of the continued tight resource environment within the Institute.

Due to the tight budgetary environment, the Research Services Division designed a review form and now processes all protocols through the Business Office prior to forwarding them for final review and signature by the Director.

Myra A. Moxley
Chief, Case Materials Accountability Division
Date of Appointment — 12 October 1993

CASE MATERIALS ACCOUNTABILITY DIVISION

STAFF

Jacqueline Martinez – Triage Manager (ARP)
Rosetta Jackson – Supervisory Medical Records Technician, Gillette CMAD
Gloria Countiss – Lead Medical Records Technician
Norma Garey – Lead Medical Records Technician
Adrian Bingham – Lead Medical Records Technician
Geraldine Key-Lovett – Medical Records Technician
Velda Jones – Medical Records Technician
Constance Balthrop – Medical Records Technician, Gillette
Travis Jones – Medical Records Technician
Andrienne Newton – Medical Records Technician
Janice Robinson – Medical Records Technician
Diane Turner – Medical Records Technician
Samira Price – Medical Records Technician (ARP)
Donnita Hodges – Medical Records Technician (ARP)
Tiloria Brooks-White – Medical Records Technician
Prestina Boone – Medical Records Technician (Anteon))
LaKisha Doleman – Medical Records Technician (Anteon)
Marshalla Dorsey – Medical Records Technician (Anteon)
Brencye Locke – Medical Records Technician (Anteon)
Stephen Banda – Accessions Clerk
Joel Ryerson – Accessions Clerk
Aaron Askew – Messenger (ARP)
Ronnie Reese – Messenger (ARP)
Anna Semiah – Messenger (ARP)

IMPACT

The Case Materials Accountability Division (CMAD) is responsible for the receipt and accessioning of all pathology cases submitted for consultation, education, and research from the DoD and other federal agencies, including the Department of Veterans Affairs, and from civilian pathologists from all over the United States and the world. The division also is responsible for the receipt of all express and courier mail by the Institute during duty hours, and runs a messenger service that picks up and delivers pathologic case materials and packages throughout the Institute several times daily.

ACTIVITIES

Cases Accessioned	*2002*	*2003*
Federal	36,251	32,866
Civilian	24,431	23,125
Total	60,682	57,854

During 2003, the division again saw many changes. Due to a restriction on the hiring of replacement personnel, a lack of space within the building, and the recommendation of a

Process Action Team that studied the matter, the 3 separate CMAD clusters operating within the building were collapsed into one and one Lead position was eliminated. The Gillette CMAD cluster remained in place. Due to uncertainty regarding the future number of case accessions, any replacement personnel that were hired were contract personnel.

In preparation for the accreditation survey by CAP in October 2003, all division standard operating procedures were updated and personnel required to read and sign off on them. No discrepancies were identified during the inspection within the division's areas of responsibility.

Mercedes E. Russell
Chief
Date of Appointment — 2 October 1995

RECORDS REPOSITORY DIVISION

The Records Repository Division is organized into 2 branches: the Records Archives Branch, which includes the Medical Information Release Office, and the Pathology Data Branch. Both branches work closely together and many of the personnel have been cross-trained in each other's functions.

RECORD ARCHIVES BRANCH

- Receives, stores, maintains, and retrieves all forms (microfiche, optical disk, paper) of pathologic case files.
- Assists in the inventory and documentation preparation requirements for transferring records to the digital imaging contractor.
- Performs quality assurance review on document images and passes or fails the images as applicable.
- Retrieves previously accessioned case folders in response to the accessioning of a new case sequence on the same patient.
- Returns original x-rays to contributors.
- Processes all requests for release of information from the pathologic case files.
- Processes all requests for loan or return of submitted pathologic materials (slides, paraffin blocks, or wet tissue specimens).
- Tracks submission of all VA claims cases.
- Rotates into the triage function as assigned.
- Assists in receiving and accessioning Radiology class cases and Environmental Pathology Registry cases (KUW, POW, and Agent Orange).

PATHOLOGY DATA BRANCH

- Abstracts, codes, and classifies final diagnoses of accessioned cases according to SNOMED International.
- Retrieves demographic and diagnostic data from the research database to assist Institute staff in their research and teaching endeavors.
- Obtains patient follow-up information in support of approved clinicopathologic correlation or descriptive pathology studies.
- Contacts contributing pathologists, hospitals, tumor registrars, patients, military records centers, and clinicians to obtain complete information.
- Prepares search requests to forward to the National Death Index (NDI), including NDI Plus, at the request of investigators.
- Rotates into the triage function as assigned.
- Assists in receiving and accessioning Radiology class cases and Environmental Pathology Registry cases (KUW, POW, and Agent Orange).

RECORD ARCHIVES BRANCH/MEDICAL INFORMATION RELEASE OFFICE

STAFF

Louise Matthews – Lead Medical Records Technician
Eva D. Duncan – Medical Information Release Specialist
Shirley Shields – Medical Records Technician
Raymond Riley – Medical Records Technician
Lenora Vaughn – Medical Records Technician
Pamela Poteat — Medical Records Technician
Serita Hewitt – Medical Records Technician
Glenda Taylor – Medical Records Technician (ARP)
William Moore – Quality Assurance Technician (Anteon)
Ira Brown – Quality Assurance Technician (Anteon)
Kristina Kemp – Quality Assurance Technician (Anteon)
Virginia Walker — Student Aide

ACTIVITIES

Workload Factor	*2002*	*2003*
Folder/Materials Actions Received	81,872	78,600
Retrieval/Sent Actions	12,872	12,932
Information Release Requests	1,819	1,867

This year we began to convert some of the paper records maintained in the Repository to digital images, including the Department of Legal Medicine claims files. As of the end of the year, a total of 447 boxes consisting of 2,522 Legal Medicine files had been shipped to the conversion facility. In addition, a total of 509 boxes consisting of 87,905 main repository records had been shipped. All software for the processing and retrieving of the images had been tested and accepted and the Institute began accepting images from the contractor toward the end of the year.

This year Records Repository personnel also assumed responsibility for the accessioning of Radiology class cases. All cases were processed in an accurate and expeditious manner, and the division received praise from the Department of Radiologic Pathology for accomplishing this task so that all cases were accessioned during the first few weeks of each class.

PATHOLOGY DATA BRANCH

STAFF

Toni Dickens – Lead Medical Records Technician
Janice Powell – Medical Records Technician
Terry Lloyd – Medical Records Technician
Tammie Miles – Medical Records Technician
Jacqueline Pinnix – Medical Records Technician
Celeste Brannon – Medical Records Technician (VA)
Frances Wise – Medical Records Technician (VA)
Andre Thornton – Data Quality Technician (ARP)

ACTIVITIES

Workload Factor	*2002*	*2003*
Cases Uploaded	58,709	53,464
Data Retrievals	293	171
X-rays Returned	N/A	1,241

During 2003, an upgrade of the PIMS system was implemented that substantially improved coding processing efficiency. Division personnel participated in additional CPT-4 coding audits and began training to assume the function of producing billing invoices for civilian cases in early 2004. Personnel also assisted in accessioning the Radiology class cases and regularly rotated through the case triage function.

Kenneth A. Rawley
Chief
Date of Appointment – 11 April 1982

MATERIALS REPOSITORY DIVISION

STAFF

Alfonzo Riddick — Materials Handler Warehouse Supervisor
Gregory Corbin — Materials Handler Work Leader
Thelma P. Best — Materials Handler
Ronald L. Duell — Materials Handler
Wayne Hamilton — Materials Handler
Woodrow Williams — Materials Handler
Willie Lovett — Materials Handler
Della M. Owens — Materials Handler
Larry Middleton — Materials Handler
James C. Stinney — Materials Handler
Audrey E. Tinker — Materials Handler
Marvin L. Alston — Materials Handler/Driver
Jennifer Johnson — Materials Handler
Kendrick Summers — Materials Handler
John McClenny — Materials Handler
Douglas Underwood — Materials Handler
Leroy Edmunds — Materials Handler (ARP)
Ronnie Payne — Materials Handler (ARP)
Tryone Connie — Materials Handler (ARP)
Brian Salewski — Materials Handler Clerk (Rock Terrace)
Bobys, Stephen — Materials Handler Clerk (Rock Terrace)

IMPACT

The Materials Repository Division processes, stores, and retrieves accessioned formalin-fixed tissue, microscopic glass slides, and paraffin blocks. A tissue-resealing laboratory is maintained for use in processing formalin-fixed tissue for storage and for tissue resealing and maintenance functions. The division also maintains a repository of pathologic materials and reports from closed military medical facilities. The division maintains a storage area within Bldg 54, along with 2 15,000-square-foot warehouses located on the Forest Glenn Annex of in Silver Spring, Md.

ACTIVITIES

Workload Factor	*2002*	*2003*
Cases received for file	81,872	98,077
Cases forwarded	12,872	9,128

The increase in the number of cases being processed for file can be attributed, in part, to the decrease in the number of active protocols, resulting in materials that were being maintained in the departments under approved protocols being returned to the repository. Also, with the implementation of HIPAA and the HIPAA risk assessments completed by the HIPAA Compliance Committee, departments returned materials that they had been maintaining but that were not under any IRB-approved project.

During 2003, repository personnel continued to assist in the oversight of the digital imaging contract, inspecting and verifying a random 1% of the base closure materials inventory results, and certifying shipments of records for imaging to the IMC imaging facility at Rocket Center, WV. During this year, responsibility for managing the tissue grossing laboratory was transferred to the Department of Scientific Laboratories, while tissue processing functions concerning accessioning, storage, and resealing were kept within the division.

Leslie H. Sobin, MD, SES
Director
Date of Appointment — 20 September 1987

CENTER FOR SCIENTIFIC PUBLICATIONS

STAFF

Leslie H. Sobin, MD, Director
Frances W. Card, Visual Information Specialist
Bonnie L. Casey, Scientific Editor, ARP
(D) S. Monique Craig, Scanning Assistant/Administrative Assistant, ARP [part-time]
James C. Eastep, DVM, MS, Computer-Aided Instruction Consultant, ARP [part-time]
Junko Monroe, Multimedia Production Technician, ARP
Linda A. Murakata, CDR, MC, USNR, Associate Editor [part-time]
Michele Richman, Editor/Multimedia Production Technician, ARP
Kenneth Stringfellow, Scanning Technician

AFIP Editorial Committee

Kamal G. Ishak, MD, PhD
Adrianne Noe, PhD
Florabel G. Mullick, MD, SES
Timothy O'Leary, MD
Leslie H. Sobin, MD, SES

ORGANIZATION

The Center for Scientific Publications, through its Editorial, Publication Preparation, Illustration Scanning, and Electronic Publication subdivisions:

- oversees editorial and publishing issues for the Institute, reviews proposals for AFIP generated publications;
- provides editorial review of manuscripts;
- oversees the processing and transmitting of manuscripts to publishers;
- maintains the Institute's publications records and archives;
- collects book reviews of AFIP publications;
- reviews requests for permission to reprint published materials;
- edits, designs, and produces the Annual Report, the Annual Research Progress Report, the Institute's nonserial publications, *The AFIP Letter*, informational brochures, and catalogs;
- prepares 4-color and halftone scanned images for the Atlases of Tumor and Non-tumor Pathology and the Institute's nonserial publications, generating digitized images for archiving and reproduction;
- designs, coordinates, and produces CD-ROMs of Institute publications, and provides user support;
- promotes the development of standardized diagnostic nomenclatures and classifications of the World Health Organization (WHO) and the International Union Against Cancer (UICC);
- coordinates the revision of the UICC's TNM Classification, and oversees publication of the revised editions.

IMPACT

The center produced an atlas of pathology on intestinal tumors and an atlas on cysts and tumors of the jaws in CD-ROM format. The worldwide distribution of these has great impact on the Institute's reputation as a major international source of authoritative information,

standardized classifications and nomenclature. The outstanding quality of illustrations, the hallmark of AFIP publications, has drawn continued praise in scientific journal reviews.

Work on the fourth series of tumor atlases began in this period; the nontumor atlas series continues.

There has been close collaboration with the International Agency for Research on Cancer to develop the WHO Classification of Tumors series: Pathology and Genetics of Tumors and the International Classification of Diseases for Oncology (ICD-O). Work continues with the UICC on tumor classification and staging (TNM system) and the interaction of staging with nonanatomic prognostic factors.

Publications Sold (ARP fiscal year 2003; 2002 figures in brackets)

Tumor atlases ..... 13,766 [13,072]
Non-tumor atlases ..... 5,450 [3,164]
Non-series books ..... 2,626 [3,760]
CD-ROMs ..... 1,646 [1,104]
Images Scanned, Corrected, and/or Proofed ..... 4,561 [4,481]

Books Published

1. Riddell RH, Petras RE, Williams GT, Sobin LH. *Tumors of the Intestines*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2003. Series 3, Fascicle 32, Atlas of Tumor of Pathology. ISBN: 881041-78-6.
2. Head KW, Cullen JM, Dubielzig RR, Else RW, Misdorp W, Patnaik AK, Tateyama S, van der Gaag I. *Histological Classification of Tumors of the Alimentary System of Domestic Animals*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2003. Series 2, vol X, WHO *International Histological Classification of Tumors of Domestic Animals*.

CD-ROM Published

Sciubba JJ, Fantasia JE, Kahn LB. *Tumors and Cysts of the Jaws* [book on CD-ROM]. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 29, Atlas of Tumor of Pathology.

Web-Based Publications

Cutaneous Leishmaniasis http://www.afip.org/Departments/infectious/lm/index.html. Peter L. McEvoy, Ronald C. Neafie, Mary K. Klassen-Fisher, Ann Marie Nelson, Bonnie L. Casey, David Draley, Naomi Aronson, Glenn Wortmann, Mark Polhemus

Inhalational Anthrax http://anthrax.radpath.org/index.html. Jeffrey R. Galvin, Melissa L. Rosado de Christenson, Teri J. Franks, Peter L. McEvoy, Aletta Ann Frazier, Linda C. Wilkins

Monkeypox http://www.afip.org/Departments/infectious/mp/index.html. Ann Marie Nelson, Bruce Williams, David Draley, Manpreet Singh

Severe Acute Respiratory Syndrome (SARS) http://www.afip.org/Departments/Pulmonary/SARS/index.html. Teri J. Franks, Jeffrey R. Galvin, Elena Selbs, Dennis L. Hayden, Junya Fukuoka, Peter L. McEvoy, Ann M. Nelson, Aletta Ann Frazier, William D. Travis, David Draley

Other Publications

1. *Armed Forces Institute of Pathology Annual Report 2002*. Washington, DC: Armed Forces Institute of Pathology: 2003. Card FW, Casey BL.
2. Gardiner WA Jr, Squazzo K, Card FW, Casey BL, Stringfellow K. ARP/AFIP 2004 Calendar. Washington, DC: American Registry of Pathology: 2003
3. Eastep JC, Thompson LDR. *Anatomic Pathology Course Study Set Cases*. (CD-ROM, provided as part of the 2003 Anatomic Pathology Course and for sale.) Discussion provided by: Cardiovascular Pathology: Allen Burke, Dermatopathology: Walter Rush, Endocrine Pathology: Lester D.R. Thompson, ENT Pathology: Lester D.R. Thompson, Gastrointestinal Pathology: Christine M. Hobbs, Genitourinary Pathology: Isabell A. Sesterhenn, Gynecologic and Breast Pathology: Brian L. Strauss, Hematopathology: Susan L. Abbondanzo, Hepatic Pathology: Zachary D. Goodman, Infectious Disease: Peter McEvoy, Neuropathology: Glenn D. Sandberg, Ophthalmic Pathology: Ian W. McLean, Oral Pathology: Kevin R. Torske, Orthopedic Pathology: Francis H. Gannon, Pulmonary Pathology: Teri J. Franks, Soft Tissue Pathology: Julie C. Fanburg-Smith.
4. Kelly C, Casey BL, Card FW. *AFIP Letter*. 2003:162 (vols 1-4).

PROFESSIONAL ACTIVITIES

Official Trips

LH Sobin:

1. March 2003, WHO/IARC Meeting on Classification of Lung, Thymus, and Heart Tumors, Lyon, France (WHO).
2. May 2003, TNM Project Meeting, International Union Against Cancer (UICC), Geneva, Switzerland (UICC).
3. July 2003, WHO/IARC Meeting on Classification of Upper Aerodigestive Tumors, Lyon, France (WHO).

Editorial Positions

LH Sobin:

1. Associate Editor, *AFIP Atlas of Tumor Pathology*, 3rd Series
2. Associate Editor, *AFIP Atlas of Tumor Pathology*, 4th Series
3. Associate Editor, *AFIP/ARP Atlas of Nontumor Pathology*
4. Series Coeditor, *WHO Classification of Tumors: Pathology and Genetics of Tumors*
5. Guest Editor, *Seminars in Surgical Oncology*

Jeffrey T. Mason, PhD
Chief
Date of Appointment — 1 January 1993

DEPARTMENT OF BIOPHYSICS

STAFF

Scientific

Jeffrey T. Mason, PhD, Chief
Kimberlee Potter, PhD, Director, AFIP Magnetic Resonance Imaging Facility
Vladimir K. Rait, PhD, Research Associate
Lixin Xu, MD, PhD, Research Associate
Robert E. Cunningham, MS, Biologist and Histopathologist

Administrative

(D) Frank A. Jones, HM1, USN, Administrative Assistant

IMPACT

Biotoxin Detection: We are developing simple field-deployable assay systems for detecting biological toxins with high specificity and at sensitivity levels approaching 100 molecules. In 2003 we developed an assay that can detect fewer than 150 molecules of cholera toxin in urine or water from farm runoff. This assay is more sensitive than current assays for cholera toxin by 2 orders of magnitude. Our research in this area is critical to homeland security, the protection of military personnel in combat or peacekeeping operations, and the forensic analysis of terrorist incidents. We prepared a patent application for our assay method, which has been approved by USAMRAA for submission to the US Patent and Trademark Office. This work is funded by a grant from the Peer Reviewed Medical Research Program (PRMRP) supplement to the US Army Medical Research and Materiel Command (USAMRMC).

Chemistry of Formalin Fixation: We are developing methods to reverse the effects of formalin fixation on proteins and RNA so that these molecules can be recovered from formalin-fixed paraffin-embedded tissues for retrospective proteomic and genomic analyses. If successful, this research could dramatically improve our ability to diagnose and treat numerous diseases. These methods are also highly relevant to the evaluation of formaldehyde-treated pathology specimens obtained from military casualties that have been exposed to infectious or toxic biowarfare agents. In 2003 we demonstrated for the first time that protein immunoreactivity and function can be recovered from proteins treated with formaldehyde by chemically reversing formaldehyde cross-linkages. Two papers describing this work have been accepted for publication in *Laboratory Investigation* and will be accompanied by a commentary. This work is funded by a grant from the National Cancer Institute (NCI). We submitted a grant application to the NCI and received an excellent priority score, thus ensuring continued funding of this research.

Studies of Bone Development and Tissue-Engineered Bone Implants: Traumatic bone injury and bone disease constitute the majority of medical cases among active duty personnel, costing the military millions of dollars and thousands of lost man-hours per year. We are actively involved in using magnetic resonance microscopy (MRM) to develop and evaluate tissue-engineered bone implants for reconstructive bone surgery and to evaluate bone disease. We employ MRM as a noninvasive high-resolution imaging modality to assess bone repair, bone and cartilage growth, and the infiltration of bone matrix into various scaffold materials. The goal of this work is to develop tissue-engineered bone implants for repair of injured or diseased bone and to compare the effectiveness of these constructs against more traditional strategies involving bone grafts. The results of this research will have a significant impact in the medical treatment and rehabilitation of active duty military personnel. This work is being funded by a

grant from the National Institutes of Health (NIH).

Additional Military-Relevant Research: We are employing MRM in an ongoing project in collaboration with Dr. Darlene Ketten of the Woods Hole Oceanographic Institute and Harvard Medical School to image the membranous labyrinths of the human cochlea. These studies have the goal of understanding hearing loss in traumatic ear injuries and optimizing the development and placement of cochlear implants to restore auditory function. We are also employing MRM for wound pattern analysis in skin and eyes for applications in forensic medicine.

CONSULTATION

The AFIP Magnetic Resonance Imaging Facility provides magnetic resonance microscopic imaging services to the AFIP and other military and civilian collaborators. MRM techniques in cardiovascular, pediatric, forensic, otologic, orthopedic, genitourinary, and ophthalmic pathology have been developed for analysis of cases for research and diagnostic applications.

The Biophysics Department is the sole source for JC virus testing for the Institute.

Cases	*Completed*
Interdepartmental	30
Total	30

EDUCATION

Courses

Division staff served as faculty for 1 non-AFIP course in 2003:

- August 2003, Techniques in Flow Cytometry, NIH, Bethesda, Md, Foundation for Advanced Education in the Sciences.

Trainees

1. Breno Pessanha, Fellow in Cardiac Pathology, 1 month.
2. Edwin Vasconez, American Red Cross, 4 weeks.
3. Ingrid Chesnick, summer intern, 3 months.
4. Andrew Graves, summer intern, 3 months.

Presentations

1. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Analysis of electrical pattern injury in human skin by magnetic resonance microscopy," MJ Thali, WR Oliver, R Dirnhofer, K Potter, W Rodriguez.
2. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Magnetic resonance microscopy as an adjunct in the evaluation of infant rib fractures," A Baker, K Potter.
3. March 2003: Washington, DC, US/Canadian Academy of Pathology, "Magnetic resonance imaging of lymph node metastases," K Potter, R Cunningham, TJ O'Leary.
4. April 2003: Washington, DC, AFIP, "Microradiologic diagnosis in pathology," K Potter.
5. May 2003: Washington, DC, AFIP, "Studies on the formaldehyde fixation of proteins," JT Mason.
6. June 2003: London, Ontario, University of Western Ontario, "Bone formation studies by magnetic resonance microscopy," K Potter.
7. June 2003: Ft Detrick, Md, US Army Medical Research and Material Command, "Immunoliposome nucleic acid amplification assays," JT Mason, TJ O'Leary.
8. September 2003: Snowbird, Utah, International Conference of Magnetic Resonance Microscopy, "Magnetic resonance microscopy of tissue-engineered phalanges," K Potter, P Anderson, N Isogai, WJ Landis.
9. December 2003: Washington, DC, National Museum of Health and Medicine, "Magnetic resonance imaging," K Potter.

RESEARCH

Publications

See the Cumulative Publications List for titles of 2003 publications by department staff.

Projects

1. Formalin fixation and recovery of RNA and protein.
2. A field-deployable ultra-sensitive assay system for biological toxins using immunoliposome-DNA amplification hybrids.
3. Nuclear microarrays for quantitative high-throughput molecular screening of tissue specimens.
4. Correlation of NMR measurable parameters.
5. MRI of vulnerable coronary atherosclerotic plaques.
6. NMR microscopy of metastatic disease.

Collaborators

Civilian

1. Dr. Naomi Eidelman, American Dental Association, Gaithersburg, Md.
2. Dr. Darlene Ketten, Harvard Medical School, Boston, Mass.
3. Dr. Michael M. Batenjany, Novagen, Madison, Wisc.
4. Dr. William Landis, Northwestern Ohio Universities College of Medicine, Rootstown, Ohio.
5. Dr. Newell Washburn, National Institutes of Standards and Technologies, Gaithersburg, Md.
6. Dr. Paul Anderson, Queen Mary College, University of London, England.
7. Dr. Michael Thali, Institute for Forensic Medicine, University of Bern, Switzerland.
8. Dr. Thomas Johnson, Department of Preventative Medicine, USUHS, Bethesda, Md.
9. Dr. William Oliver, Georgia Bureau of Investigation, Trion, Ga.

Interdepartmental

1. Dr. Robert E Becker, Genitourinary Pathology.
2. Dr. Donald Sweet, Orthopedic Pathology.
3. Dr. Isabell Sesterhenn, Genitourinary Pathology.
4. Dr. Renu Virmani, Cardiovascular Pathology.
5. Dr. Ian McLean, Ophthalmic Pathology.

PROFESSIONAL ACTIVITIES

Official Trips

1. July 2003, NIH, Oral Biology and Medicine Study Section, Bethesda, Md, Special Reviewer, K Potter (NIH).
2. September 2003, National Institutes for Standards and Technology, Gaithersburg, Md, Contributor to the ASTM standard guide for physical characterization of polymeric tissue scaffolds, K Potter.
3. September 2003, International Conference of Magnetic Resonance Microscopy, Snowbird, Utah, Conference organizer and moderator, K Potter (ARP).

Manuscripts Reviewed

JT Mason:

1. *Biochimica et Biophysica Acta*
2. *Biophysical Journal*
3. *Chemistry and Physics of Lipids*
4. *Journal of Membrane Biology*

K Potter:

Journal of Magnetic Resonance and NeuroImaging

GRANT FUNDING

Active and Pending

1. DAMD17-02-1-0178 (Mason)—01/01/02–12/31/04
   USAMRMC/PRMRP
   A field-deployable ultra-sensitive assay system for biological toxins using immunoliposome-DNA amplification hybrids.
2. R21-CA091227-01 (O'Leary)—08/01/01–07/31/04
   National Cancer Institute

Formalin fixation and recovery of RNA and protein.

3. R33 CA107844-01 (O'Leary)—08/01/04–07/31/07
   National Cancer Institute
   Recovery of protein from formalin-fixed tissues.
4. R03 CA14453-01 (Potter)—08/01/02–09/30/04
   NIH/NIDCR
   Non-invasive evaluation of tissue engineered bone implants.

Applications Submitted

1. R01 (Potter)—04/01/04–03/31/08
   NIH/NIBIB
   Bone formation studies by magnetic resonance microscopy
2. R01 (Potter)—07/01/04–06/30/08
   NIH/NIAMSD
   Magnetic Resonance microscopy of mineralization

OFFICE OF QUALITY AND COMPLIANCE

Thomas R. Himes
CAPT, MC, USN
Director, Office of Quality and Compliance

Safety Management

Office of Quality Assurance

Ronald H. Suter
Director, Safety, Occupational Health, and Environmental Management
Date of Appointment — 6 March 1994

OFFICE OF SAFETY MANAGEMENT

STAFF

Ronald H. Suter, Director, Safety, Occupational Health, and Environmental Management
Brenda L. Smith, BioSafety and Occupational Health Manager

IMPACT

The Office of Safety Management was established in March 1994 to develop and manage a safety program for the AFIP, as outlined in Army Regulation 385-10, *Department of the Army Safety Program*. Our office monitors guidelines set forth by the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the College of American Pathologists (CAP). We serve as AFIP liaison with US Army Medical Command (MEDCOM) Safety Office and coordinate with the WRAMC departments of Safety, Occupational Health, Industrial Hygiene, Health Physics, Public Works, and Fire Department. We also serve on many safety-related committees, investigate all on-the-job injuries, and maintain a reference library of EPA, OSHA, DoD, and local safety-related publications. In keeping with the DoD goal of pollution prevention, we operate 5 distillation units, which recycle alcohol, xylene, and formalin back into AFIP laboratories, at considerable savings to the Institute.

ACTIVITIES

The Office of Safety Management:

- Is represented on the following committees: AFIP Safety Committee; AFIP Biosafety Committee; AFIP BioSurety Committee, AFIP Quality Assurance Committee; AFIP Space Committee; Installation Safety Committee; Installation Hazardous Substance Management System (HSMS) Committee; Environmental Overwatch Training Subcommittee; Installation Plans and Implementation Subcommittee; and Installation Asbestos Management Team.
- Has sole responsibility for disposal of all AFIP's hazardous waste to the WRAMC Hazardous Waste Bunker and making numerous entries in the Hazardous Substance Management System (HSMS), a computerized tracking system mandated by DoD that tracks hazardous substances from vendor to disposal.
- Presents all annual training required by OSHA (Hazardous Communication, Bloodborne Pathogens, Fire Extinguisher Training) to the AFIP staff.
- Has been tasked with a significant new mission: the Waste Management Program. This includes the solvent distillation of xylene, alcohol, and formalin; management of regulated medical waste; monitoring of hazardous chemical waste; and monitoring of silver recovery. AFIP's current recycling equipment has proven to be very cost-efficient. In 2003 the Office of Safety Management recycled 265 gallons of alcohol, 300 gallons of xylene, and 250 gallons of formalin for a savings in purchase and disposal of $28,489.00. Not only is the Office of Safety Management recycling these chemicals for AFIP's use, but we now recycle for some WRAMC activities.

Ms. Brenda Smith, the BSL-3 Safety Manager, has sole responsibility for safety issues and concerns for 6 BioSafety Level 3 (BSL-3) laboratories.

Frank J. Roberts
Quality Assurance Coordinator
Date of Appointment — 19 January 1993

OFFICE OF QUALITY ASSURANCE

STAFF

Frank J. Roberts, Quality Assurance Coordinator
Nicole Jenkins, Health System Specialist
Estella Page, Office Automation Clerk

ROLE AND FUNCTION

The Office of Quality Assurance oversees the Institute's quality assurance, risk management, and the 5 residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) (Dermatopathology, Forensic Pathology, Hematopathology, Neuropathology, and Selected Pathology (Pulmonary Pathology)). To accomplish this mission, the office:

- Monitors Institute compliance with the DoD's Clinical Laboratory Improvement Program, College of American Pathologists (CAP) and ACGME accreditation requirements, and the Department of the Army and the AFIP quality assurance and graduate medical education regulations.
- Serves as AFIP liaison with the VA Diagnostic Services quality assurance staff.
- Manages the AFIP/Military/VA Histopathology Quality Assessment Program (HQAP) and the Systematic External Review of Surgical Cases (SERS) program.
- Manages and coordinates the AFIP American Red Cross Volunteer Program and represents the AFIP on WRAMC's American Red Cross Advisory Council.
- Manages the Brazil External Peer Review program.
- Maintains a reference library containing publications from CAP, National Committee for Clinical Laboratory Standards, and Occupational Safety and Health Administration (OSHA) standards.
- Manages the Medical Surveillance and Respirator Protection programs for ARP contract employees.

ACTIVITIES

- Prepared the ACGME Institutional Review Document and coordinated the successful ACGME Institutional Review (1 April 2003). AFIP received a Favorable Decision with a 5-year accreditation. The next Institutional Review will be April 2008.
- Coordinated preparation of the AFIP's CAP reaccreditation packet and the October CAP inspection. This was the most successful inspection since CAP began accrediting the AFIP.
- Mailed AFIP/ARP Atlas of Tumor Pathology fascicle number 32, *Tumors of the Intestines*, to military pathologists.
- Annually review and update as needed AFIP Regulation 40-8, V*eterans Affairs Pathology Review Program,* AFIP Regulation 40-64, *Occupational Health Program,* AFIP Regulation 40-68, *Quality Assurance Administration,* and AFIP Regulation 351-2, *Policies and Procedures for the Administration of Graduate Medical Education.*
- In coordination with the Office of Safety Management, annually review and update the Institute's Bloodborne Pathogen Exposure Control and Chemical Hygiene Plans. The office also instructs Institute staff in the use of universal precautions and protection against bloodborne pathogens, as required by OSHA.

- Provide senior staff members statistical data on case accessioning, management, and trends as requested.
- Manage an external peer review program with the Brazilian Society of Pathology State of Sao Paulo. On a bimonthly basis, 12 to 14 cases are sent to the AFIP for in-house review and 6 cases per year are sent to Brazil for their review.
- Four HQAP cases are assembled and mailed quarterly to all military and VA medical centers/hospitals reviewing surgical cases. Last year 582 military (176) and VA (406) pathologists were awarded 9,312 hours of CME credit for participation in the program.
- SERS: The chief of the Pathology and Laboratory Medicine Service at each VA Medical Center that performs surgical and cytology examinations selects and forwards to AFIP 3 significant surgical pathology cases every other month for a total of 18 cases per year. The cases are reviewed by AFIP, with comments on significant features. Quarterly, our office provides the VA Chief Consultant for Diagnostic Services Strategic Health Group a report on participating VA medical centers. During 2003, 106 facilities submitted 1,775 cases to the SERS program.
- Manage the AFIP's American Red Cross Volunteer Program. During 2003, 17 volunteers donated over 6,710 hours.
- Manage a comprehensive medical surveillance and respirator protection program for ARP employees.
- Ms. Estella Page serves as the timekeeper/liaison for the 17 VA employees assigned to the AFIP.

OFFICIAL TRIPS

1. Washington, DC, FDA, Good Laboratory Practices Workshop, N Jenkins, F Roberts.
2. Leesburg, Va, Centralized Credentials Quality Assurance System Workshop, N Jenkins.

GRADUATE MEDICAL EDUCATION COMMITTEE

The GMEC meets at least quarterly and maintains written minutes documenting its activities and fulfillment of its responsibilities.

MEMBERSHIP

Donald E. Sweet, MD, SES, Chair
George P. Lupton, MD, Program Director, Dermatopathology Residency Program
CDR Craig T. Mallak, Program Director, Forensic Pathology Residency Program
Susan Abbondanzo, MD, Program Director, Hematopathology Residency Program
COL Hernando Mena, Program Director, Neuropathology Residency Program
William D. Travis, MD, Program Director, Pulmonary Pathology Residency Program
Nadine S. Aguilera, MD, Hematopathology
Scott D. Humble, MD, Resident/Fellow Representative (academic year 04)
Carla Penner, DDS, Resident/Fellow Representative (academic year 03)
Tabitha Viner, DVM, Resident/Fellow Representative (academic year 03)
Nicole L. Jenkins, Office of Quality Assurance
Frank J. Roberts, DIO/Secretary
Tammie Winters, Pulmonary Pathology
Danny L. Urquhart, ARP

MISSION

Graduate medical education at the AFIP is the cornerstone of the mission of education, research, and consultation. The AFIP acknowledges an absolute correlation between quality graduate medical education, clinical excellence, and scientific development. The AFIP is committed to assisting and expanding its GME programs and ensuring an environment conducive to teaching and higher learning. The program directors and their professional staff accept responsibility for the fellows' professional and personal development, and continually seek to improve their own knowledge and skills. Together, the administration, program directors, and participating fellows strive to enhance their professional ability and sustain an environment that nurtures innovation, creativity, and teamwork.

ACGME-ACCREDITED PROGRAMS

The AFIP serves a sponsoring institution for 5 pathology subspecialty programs:

1. Dermatopathology
2. Forensic Pathology
3. Hematopathology
4. Neuropathology,
5. Selective Pathology (Pulmonary Pathology)

ACTIVITIES

Institutional Review

AFIP received its Institutional Review on April 1, 2003 and the result was presented to the ACGME Institutional Review Committee. AFIP received a Favorable Decision with a 5-year accreditation.

Dermatopathology Residency Review Committee Site Visit

The Dermatopathology Residency Program received its Residency Review Committee site visit on January 16, 2003 and the results were presented to the Residency Review Committee for Dermatopathology. Dermatopathology received a 3-year Continued Full Accreditation.

Forensic Pathology Residency Review Committee Site Visit

The Forensic Pathology Residency Program received its Residency Review Committee site visit on November 20, 2003 and the results should be presented to the Residency Review Committee for Forensic Pathology spring 2004 meeting. We anticipate that the program will receive a finding of Continued Full Accreditation.

Resident Supervision

The GMEC assures that each of AFIP's subspecialty residency programs provides appropriate supervision of its residents in accordance with ACGME's institutional and program requirements. This is done through the internal review process, reviewing each program's letter of accreditation, reviewing program goals and objectives, resident exit surveys conducted by the GMEC at the end of each academic year, and discussion at GMEC meetings.

Resident Responsibilities

Resident responsibilities are written into each resident's training agreement as well as each program's goals and objectivities. These documents are reviewed annually and updated as needed.

Resident Evaluation

Residents are usually evaluated after each rotation. At a minimum, each resident is evaluated every 6 months. Residents are also regularly assessed in each of the 6 general competencies (patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and system-based practice).

ACGME DUTY HOUR REQUIREMENTS

The AFIP, as required by the ACGME, has implemented the new duty hour requirements in our 5 subspecialty programs. Each program director and resident was provided a copy of the new ACGME duty hour requirements, and AFIP Regulation 351-2, *Policies and Procedures for the Administration of Graduate Medical Education*, has been updated to reflect the new duty hour requirements. The GMEC assesses program compliance with the duty hour requirements through program letters of accreditation, internal reviews, and discussions at GMEC meetings.

GENERAL COMPETENCIES

General competencies have been introduced into all AFIP residency programs' curricula. The programs are currently at various stages in the teaching and evaluation of these competencies. The GMEC is working with program directors to ensure that the general competencies are fully implemented in all our programs. The general competencies are an open item at our GMEC meetings, and internal reviews cover the program's implementation and evaluation of the general competencies.

DIRECTORATE OF ADMINISTRATIVE SERVICES

Paul Bluteau
Director, Administrative Services

Human Resources

Business Office

Resources Management

Logistics

Information Management

Paul E. Bluteau
Director, Administrative Services
Date of Appointment — 23 January 2001
Deputy Director, Strategic Planning, 7 July 1999 - 22 January 2001

DIRECTORATE OF ADMINISTRATIVE SERVICES

During 2003, the Office of Strategic Planning was reorganized into the provisional entity now known as the Directorate of Administrative Services. Although the Office of Strategic Planning no longer exists as a separate entity, all of its functions were absorbed into the new Directorate, which is organized into 5 departments: 1) Human Resources, 2) Business Office, 3) Resources Management, 4) Logistics, and 5) Information Management. This reorganization allows the Directorate to be more responsive to the needs of the Institute as it pursues the goals of the AFIP Business and Transformation Plan. The formation of Human Resources and the Business Office allows the Directorate to monitor and facilitate 2 of the main tenets of the AFIP Business and Transformation Plan—rightsizing and improved business practices. Logistics, Resource Management, and Information Management continue their traditional roles, but with an expanded scope focused on support of all tenets of the AFIP Business and Transformation Plan.

STAFF

Paul E. Bluteau
Director, Administrative Services
Date of Appointment – 23 January 2001
Deputy Director, Strategic Planning, 7 July 1999 - 22 January 2001

Cheryl Colbert
- Administrative Analyst for DAS
- WRAMC EEO Counselor and Mediator
- Public Affairs media assistance

Date of Appointment — 10 September 1999

Committees

PE Bluteau:

1. Chair, Master Planning Committee
2. Member, Facilities Committee
3. Member, Consultative Committee, Accession Implementation Team Facilitator

James Staiger, MD
Director, Human Resources
Date of Appointment — June 2003
Senior Strategic Planner
Date of Appointment — 9 January 2001

OFFICE OF HUMAN RESOURCES

The Office of Human Resources was established in May 2003 under the AFIP Restructuring/ Transformation Plan. James L. Staiger, MD, originally of the Office of Strategic Planning, was assigned oversight of its function. It includes 3 divisions: 1) Personnel Management Office for contract personnel, 2) Military Personnel Office for active and reserve military personnel, and 3) Civilian Personnel/Manpower Division for federal employees. The Personnel Management Office is not yet fully established under the Transformation plan. Primary efforts of the Human Resources Office have been completion of a total AFIP personnel inventory and updating the revision of manning documents.

STAFF

James Staiger, MD
Director, Human Resources — Date of Appointment — June 2003
Senior Strategic Planner — Date of Appointment — 9 January 2001

Committees

1. Facilitator/recorder, PD Directors Council meetings
2. Facilitator/recorder, weekly Executive Committee Update Thursday meetings
3. Recorder, Monday Directors Executive meetings
4. Facilitator/recorder, Personnel Development Committee
5. Facilitator/recorder, HIPPA Compliance Committee
6. Facilitator/recorder, Information Management Support Council
7. Member, Personnel Performance Standards Implementation Subcommittee

Faculty Appointments

Clinical Assistant Professor, USUHS, Department of Psychiatry.

Vaughany M. Casey
Chief
Civilian Personnel/Manpower Division

CIVILIAN PERSONNEL/MANPOWER DIVISION

The Civilian Personnel/Manpower Division is a specialized and committed team of program specialists and management analysts who provide human resources and manpower management advisory services to the Director, Human Resources; Director, Administrative Services; and Institute staff. The Civilian Personnel Office is a liaison with the Civilian Personnel Advisory Center (CPAC), WRAMC, and the Civilian Personnel Operations Center (CPOC), Rock Island, Ill. The office is responsible for formulating, motivating, developing, and executing policies and plans for insuring effective staffing management, employee relations, training and development, physician bonuses, civilian payroll, and the utilization of manpower and equipment control programs. The Management Control Officer oversees the Management Control Plan, which includes the performance of management control evaluations, development of the 5-year plan, and the Annual Statement of Assurance. The division has provided guidance and assistance to supervisors and management officials concerning their responsibilities and prerogatives in personnel management. The staff prepares a weekly list of all requests for personnel actions for the Principal Deputy Director's Council for review and approval, and has established tracking metrics for the performance evaluation system and position descriptions. The staff consistently provides high-quality professional service to all customers.

STAFF

Vaughany M. Casey, Chief, Civilian Personnel/Manpower Division
Joyce D. Jones, Program Specialist
Thomas N. Tamanaha, Management Analyst
Dexter Mallory, Management Analyst/Customer Service Pay Representative

Victor E. Inniss II, ENS, MSC, USNR
Director, Headquarters Operations
Chief, Military Personnel

MILITARY PERSONNEL OFFICE
DIRECTORATE OF HEADQUARTERS OPERATIONS

The Military Personnel Office acts as a liaison between assigned service members and their parent personnel offices. Our mission is to provide expert professional services, advice, guidance, and referrals on all personnel-related issues. The AFIP military service representatives coordinate all military personnel actions, which ensures accuracy and enables the military personnel offices to provide better communication through a single point of contact.

Our functions include:

- Tracking and logging military personnel gains and losses.
- Receiving, reviewing, and processing military performance evaluations.
- Assigning leave control numbers and processing all military leave requests.
- Liaison with respective service parent personnel offices dealing with special pays, promotions, separations, retirements, pay statements, and personnel actions.
- Receiving nominations and processing all awards and decorations for assigned military personnel.
- Reviewing and updating personnel security information.

STAFF

Victor E. Inniss II, ENS, MSC, USNR, Director, Headquarters Operations/Chief, Military Personnel
Rayford Jones, MSgt, USAF, Assistant Chief, MILPO, HQ Ops
Marie Dunson, SSG, USA, NCOIC, Army Representative
Steven Thomas, YN2, USN, Personnel Representative
Shannon Jackson, HM2, USN, Personnel Representative
Cicel Anderson, YN3, USN, Personnel Representative
Mary Franklin, SPC, USA, Personnel Representative

IMPACT

- The Military Personnel Office provides administrative support to over 800 civilians and 175 military officers and enlisted personnel assigned to AFIP and its satellite locations. Military Personnel develops policies, procedures, and standards that support the Institute's mission, vision, goals and ongoing initiatives in the areas of manpower, military personnel, and operational readiness.
- In 2003, our focus was to deliver administrative support and coverage for the Institute and the OAFME Dover operations, for the Space Shuttle disaster and Operation Iraqi Freedom. During this time, we deployed MILPO personnel to augment OAFME personnel. Their services proved to be invaluable to the staff and the overall accomplishment of the mission. Military Personnel processed over 200 individual awards for personnel who were committed to the efforts for both operations.
- Our staff improved the TDY process by decreasing the turnaround time for processing orders. Our office educated personnel from the 5 Directorate Service Lines and successfully decentralized the program.
- Military Personnel volunteered to raise funds for the annual Organization Day/Director's Farewell Picnic, and helped to organize the outgoing Director's retirement ceremony.

Mike F. Nola, PhD
Chief
Date of Appointment — 1 October 2002

BUSINESS OFFICE

The Business Office is staffed by a team of committed professionals who advise and assist the AFIP leadership in data collection, analysis and evaluation, financial management, and accounting. The staff advises and supports the Director, Principal Deputy Director, Service Line Directors, and the Executive Committee by:

- Advising the Executive Committee on key issues affecting business aspects of pathology consultation, education, and research within the Institute.
- Providing budgetary and financial counseling.
- Tracking financial performance of Institute programs.
- Providing analytical and statistical reviews of programs and contracts, as well as business case analyses.
- Managing billing and collection for the Institute's civilian consultation cases.
- Reviewing, overseeing, and auditing the Institute's cost and revenue centers, MIPRs, medical case equipment, and databases.
- Managing the Institute's contracts, agreements, and electronic file management system.

STAFF

Mike F. Nola, PhD, Chief
Francis R. Costa, Business Analyst/Accountant
Rosalyn A. Payne, Management Analyst, Support Program Manager
Tonya L. Wilson, Accountant

IMPACT

The newly created Business Office evolved from the former Office of Strategic Planning and the Business Structure Tiger Team. Throughout 2003, the Business Office performed a variety of administrative functions in support of the AFIP, including:

1. Recruiting, hiring, and retaining Business Office staff.
2. Working with IM to develop and implement the physician electronic consult letter, physician on-line ordering of lab tests, the eLab module, and the PIMS billing work sheet.
3. Generating monthly VA reports.
4. Conducting a Time Capture Seminar for medical and support staff.
5. Advising the Executive Committee on key issues affecting pathology consultation, education, and research throughout the DoD.
6. Assisting in the coordination of the Business Transformation Plan.

PROFESSIONAL ACTIVITIES

MF Nola:

1. Participated in negotiation sessions with the VA.
2. Rendered statistical advice to elements of the Institute.
3. Participated in discussions regarding CPT coding and commensurate fee structure.
4. Participated in discussions with IMC regarding the Scanning of Historical Documents project, and out year planning.
5. Participated in discussions with CPOC representatives from Rock Island concerning descriptions for several newly created positions in the Business Office.
6. Worked with Space Planning Committee to move office to G013.

7. Participated in 2 In Process Reviews.
8. Participated in discussion with Molecular Pathology to set up the Cystic Fibrosis Program.
9. Participated in discussion with an external pathology billing consultant.
10. Participated in conferences with DFAS.
11. Collaborated extensively with a representative from OTSG regarding the writing of the Business Transformation Plan.
12. Set up an Institute reimbursement account to receive civilian reimbursements.

COMMITTEES

MF Nola:

1. Chair, Resource Advisory Council
2. Chair, Billing Work Group
3. Chair, Fee Structure Ad Hoc Working Group
4. Chair, Business Structure Tiger Team
5. Member (nonvoting), Executive Committee
6. Member (nonvoting), Research Committee

FR Costa:

Member (nonvoting), Resource Advisory Council

TL Wilson:

Member, Billing Work Group

RA Payne:

1. Member, Marketing Committee
2. Member, AFIP Public Affairs

PRESENTATIONS

1. Brief preparation for BOG meetings in April, July, and November.
2. Brief preparation for TSG.
3. Briefing to the Executive Committee of the Medical Staff.
4. Numerous briefs and reports to the Executive Committee.
5. Numerous briefings and consultations with the Institute's Service Line Directors.

Katie L. Askew, Chief

RESOURCES MANAGEMENT

The Directorate of Resources Management provides financial management, analysis, information, advice, and assistance to the AFIP Director and staff, the Board of Governors, and the Scientific Advisory Board.

As a result of the establishment of several new offices within AFIP's Directorate of Administrative Services, the structure and function of the former Resources Management Directorate changed significantly. After the ISSA/MOU/MOA Coordinator was moved to the Business Office and the TDY Coordinator, along with the entire Manpower Division, was moved to the Department of Human Resources, the Directorate of Resources Management was left with only the Financial Management Division and the Director's Office. The resulting reorganization allowed the Directorate of Resources Management to concentrate fully on budgetary matters and tracking the multitude of funding streams that convey monetary resources to the AFIP.

STAFF

Financial Management Division

Katie L. Askew, Chief
Kevin P. Monahan, Resource Manager Consultant
Mary L. Ward, Budget Analyst
Reginald Wilkes, Budget Analyst
Patricia A. Holden, Budget Analyst

2003 was a unique and challenging year for the Financial Management Division (FMD). In addition to the organizational changes mentioned earlier, the organization and structure of the AFIP itself was preparing to change in line with a new Table of Distribution and Allowances (TDA), built around 5 Service Line Directors who report directly to the AFIP Director. The new directorates involve the elimination of some current departments, the creation of other new departments, and the reorganization/reallocation of several existing departments from one service line directorate to another. All of these changes had significant funding and budgeting implications which had to be addressed so that the fiscal year could be closed appropriately.

The FMD was able to orchestrate a successful year-end closeout, executing 100% of its $92.4M in Operations and Maintenance, Army (OMA), Research, Development, Test and Evaluation (RDTE), and Defense Health Program (DHP) funding. Major changes from the previous fiscal year included the receipt and execution of new funds for Raman Chemical Biothreat Detection (RDTE funding - $5.1M), Global War on Terrorism ($751.1K), Cystic Fibrosis Testing ($393.7K), and the Central Panogram Storage Facility ($50K). Funds for the Digital Imaging of Historic Records at AFIP Program continued, with funding now totaling $8.5M, an increase of $5.1M from FY02. Additionally, continued efforts to enhance the reimbursable program resulted in a $7.4M (224%) increase in those types of funds. Finally, the FMD was able to hire 2 additional budget analysts to fill long-standing vacancies.

FY03 FUNDING

	FY03 Final
Funding Received (Unfenced)	
Core Dollars	$ 42,221,000
Inflation Increase	1,413,000
DHP Funding for FY03 (Unfenced)	$ 43,634,000
OMA/RDTE/DHP Funding Received (Fenced)	
OMA ACSPER (CMAOC) (OMA Fenced)	$ 7,640,000
Counter Narcotics (OMA Fenced)	775,000
Biosurety (OMA Fenced)	941,737
Raman Chem Biothreat Detection (RDTE Fenced)	5,077,000
Gillette Lease (DHP)	2,500,000
DNA (DHP)	2,250,000
Persian Gulf Illness (PGI) (DHP)	1,350,000
ACTUR (DHP)	1,200,000
CAP Contract (DHP)	1,159,000
VID Exhibits (DHP)	249,200
Digital Imaging of Historic Records (DHP)	8,475,000
Patient Safety Center (DHP)	1,237,000
Real Property Maintenance/Sustainment (DHP)	1,419,500
GWOT Distribution (DHP)	751,100
Central Panogram Storaage Facility (DHP)	50,000
CF Testing (DHP)	393,700
Command Directed Travel (DHP)	2,300
NRC License Fees (DHP)	(6,500)
OMA/RDTE/DHP Funding Available for FY03 (Fenced)	**$ 35,464,037**
Total Funding Available to AFIP (Fenced and Unfenced)	$79,098,037
Reimbursements Earned	$13,343,906
Total Funding (All Sources)	$92,441,943

Lonnie Winley
Director
Date of Appointment – 10 April 2002

DIRECTORATE OF LOGISTICS

The Directorate of Logistics integrates long-range and daily sustainment efforts with the AFIP to provide on-time materials and services. Sustainment efforts include equipment acquisition, receipt, and delivery; supply requisition processing; property accountability; physical security; facility maintenance and repair; housekeeping; hazardous substance management services; construction project management; biomedical maintenance operations; and contract management encompassing the ARP, FedSource (Star Digital), J&J Maintenance, and B&B Housekeeping contracts. The directorate strives to provide flexible, responsive, economical, and attainable supplies, equipment, and services to enhance and support the array of missions and operations of the AFIP.

The directorate is organized into 6 major divisions:

1. Office of the Director
2. Facilities and Services
3. Materiel Acquisition
4. Logistics Support
5. Property Management
6. Physical Security

The directorate is also organized into 2 special staff functional areas organized under the Director and Deputy Director:

1. Engineering, Renewal, and New Project Management
2. Command Supply Discipline and Customer Assistance

STAFF

Office of the Director

Lonnie Winley, Director
CPT Mark Reefer, Deputy Director
(D) Paula Hunter, SSG, USA, DOL NCOIC
Ted Gross, Mechanical Engineer and Chief, Renewal Project
Jade Boesen, Command Supply Discipline
(A) Kimberly Green, Administrative Assistant

FACILITIES AND SERVICES DIVISION

The Chief of the Facilities and Services Division is responsible to the Director of Logistics for facility management and maintenance of approximately 600,000 square feet of research and administrative space. The Facility Director is responsible for technical and administrative management of the Facility, Environmental Services, and Project Management Branches; serves as the Institute's Facilities Safety Officer; is responsible for adherence to Life Safety Codes and construction safety programs; and assures clear communication among relevant parties concerning facility issues, procedures, and reporting.

STAFF

Cornelius L. Reeder, Chief and Facility Manager
Willie Poole, Supply Technician
Rosalind Vines, DMLSS Manager

Accomplishments

1. Increase of 10% in annual O&M budget.
2. Award of $42M Renewal Project.
3. Developed and initiated a Quality Assurance (QA) program.
4. Performed 568 mechanical room inspections.
5. Averaged 25 work requests weekly, generated from QA inspections.
6. Established and implemented operating procedures and policies in accordance with established objectives, schedules, and program funds.
7. Managed a sustainment program through facility assessment, and provided technical assistance for an ongoing Medical Military Construction project.
8. Ensured continuous communication with the U.S. Army Medical Command.

FACILITY MAINTENANCE BRANCH

In 2003, the Facility Maintenance Branch focused on serving customers effectively and efficiently. We provided education and training to the staff as a tool to produce effective, efficient service. The primary mission was to provide scheduled repair and maintenance for buildings housing the Institute's personnel. Additionally, we provided and managed the Command Physical Security Program and the Command Key Control Program.

STAFF

Allen Harris, Branch Chief/Quality Control Manager
Gary S. Pinkney, Project Manager
Deon Jolly, Work Center Manager
(A) Tokoya Talley, Production Control
Al Bradley, Maintenance Mechanic
(A) Willie Jones, HVAC Mechanic
(A) Danny Henderson, Maintenance Mechanic
(D) Donald Carroll, Maintenance Supervisor
(D) Donald Cooke, Maintenance Supervisor
(A) Allen Crichlow, Maintenance Supervisor
(D) Raj Jeevaraj, Carpenter
(A) Steven Zirkle, Locksmith
Francis Foreman, Plumber
Josh Baumgardner, HVAC Mechanic
(D) Prince Robinson, Maintenance Mechanic
(D) Paul Castro, Maintenance Mechanic
(D) Ronald Hunt, Electrician
(A) Darryl Henry-Charles, Electrician
Mark Waddy, Maintenance Mechanic
(D) Dave Jordan, Maintenance Mechanic (D)
Edward Clark, Maintenance Mechanic

Accomplishments

1. Tracked and documented performance of 100% of the required scheduled services for Real Property.
2. Received and completed 3,491 in-house work requests.
3. Initiated pre- and post-utility outage meeting, which included lessons-learned briefings.
4. Processed 577 credit card transactions valued at over $180K.
5. Ensured 100% accountability for the division's inventory of tools and test equipment.
6. Ensured 100% accountability of stocked parts.
7. Ensured 100% calibration of the Institute's TMDE, calibrated within appropriate time frames.

HOUSEKEEPING BRANCH

We provided hospital/laboratory-grade housekeeping services on a routine, event, and emergency basis, and provided on-call custodial and snow removal services for all organizational elements of the Institute.

STAFF

Gary Brown, Executive Housekeeper
Gregory Graves, Project Manager
Maria O. Reyes, Supervisor
Jose Sanchez, Housekeeper
Marvin Abarca, Housekeeper
(D) Maria Aleman, Housekeeper
Angel Fuentes, Housekeeper
(D) Jose Guevara, Labor
Maria D. Mejia, Housekeeper
Bladimir Plaitez, Housekeeper
Idalia Reyes, Housekeeper
Morena Rivera, Housekeeper
Sonia Salamanca, Housekeeper
Eleno Sibrian, Housekeeper
Gloria Viera, Housekeeper
Juan Sosa, Housekeeper
Benjamin Vega, Housekeeper

Accomplishments

1. Generated 374 general maintenance requests to the Facility Maintenance Branch.
2. Replaced 4,581 damaged and/or soiled ceiling tiles during a daily maintenance program.
3. Performed cleaning services in support of the 2003 NHMM's Ash Lecture.
4. Performed 31 construction cleanings.
5. Provided routine cleaning services for the Institute.

RENEWAL AND NEW PROJECTS

Our role is to plan and scope projects, review and coordinate design within the AFIP, coordinate utilities outages and disruptive activities, construction inspection, field engineering, and coordination between the construction activity and AFIP. We provide technical expertise to the Facilities Division for troubleshooting mechanical and control systems and contractual advice to the AFIP Safety Office for asbestos and lead construction material management and other facility requirements.

STAFF

Theodore J. Gross, Mechanical Engineer
Ron Gadow, Project Manager
Ron Coleman, CADD Operator

Accomplishments

1. Provided total project management support for Renewal.
2. Site preparation for new equipment and renovation projects.
3. Provided professional engineering as support to Facility Maintenance Branch in support of facility maintenance services.
4. Provided liaison between project contractors, the contracting agency, and the requesting activity.
5. Initiated award of $1M in design and construction contracts.
6. Completed over $11M in construction projects (Renewal) during the year, recovering lost space, correcting deficiencies, and providing renovated facilities.

MATERIEL ACQUISITION DIVISION

The Materiel Acquisition Division provides services and support for expendable supplies and services, including Credit Card, the Laboratory Integrated Delivery System (LIDS), and Local Purchase Requests. The division also maintains the ARP Personnel Contract for the Institute.

STAFF

(D) Lanelle Chisolm, CPT, MS, USA, Chief and COR, ARP Contract
(A) Lisa Wilson, CPT, MS, USA, Chief and COR, ARP Contract
(D) Ricardo Montalvo, SGT, USA, NCOIC/Supply Technician
Sonia Cross, Logistics Analyst
Jerome Thorpe, Lead Supply Technician
(D) Alonza Snipes, Purchasing Agent/IMPAC Coordinator

Accomplishments

1. Implemented the Wide Area Workflow for tracking online receiving reports.
2. Managed the inventory of controlled substances for the entire Institute.
3. Centralized all ordering of medical gases for the Institute.
4. Implemented Acquiline (PRWEB), an automated, paperless purchase request system, with 2 new military contracting institutions.
5. Acquired the $975K Ventanna contract for expedient purchasing of chemical reagents for AFIP.
6. Implemented the $18M Information Manufacturing Corporation (IMC) contract.

Major Initiatives

- Acquiline (PRWEB) was implemented in 2002. This paperless, automated purchase request system satisfies the DoD Paperless Act requirement and allows visibility of the purchase request through the approval process. PRWEB is centralized in the DoL to ensure a smooth transition from paper to paperless. This year, Materiel Acquisition Division implemented the PRWEB system with Ft Belvoir and Ft Detrick contracting institutions, to receive more efficient service for AFIP.
- Wide Area Workflow: DoD Electronic Commerce Initiative that eliminates the transmission of paper from within the DoD acquisition and payment process. This reduces high interest penalties due to lost or misplaced receiving reports and creates an electronic commerce environment using existing tools and systems to meet the Prompt Payment Act.
- Centralization of Gas Ordering: The centralization of this ordering process provides appropriate natural gas requirements data needed to track incoming gasses and gas usage. It also provides a reliable supply of natural gas at the lowest possible cost to AFIP, and ensures that AFIP has a secure and reliable source of energy.
- Information Manufacturing Corporation (IMC) Contract: IMC converts various types of records currently maintained by AFIP into a secure electronic database of images, as well as several pilot programs including digital histopathologic imaging and modes for distance learning initiatives.

LOGISTICS SUPPORT DIVISION

The Logistics Support Division provides support to the Institute in conventional functional areas of a logistical operation such as receiving and distribution, and in the tracking and management of hazardous substances utilizing the automated Hazardous Substances Management System (HSMS). This division was reorganized in 2003 as a result of the restructuring of the Directorate of Logistics that combined the Materiel Receiving and Distribution and the HSMS Division into one organizational element.

STAFF

(A) Charles Harris, Chief

RECEIVING AND DISTRIBUTION BRANCH

This branch is responsible for the receipt, storage, and distribution of all supplies and equipment being delivered to the AFIP Central Receiving Warehouse, Building 53. These items fall into various categories such as medical and nonmedical, expendable and nonexpendable, controlled substances, gases, and retrieval, management, and disposal of excess government property. Other areas of responsibility include transportation of supplies and equipment, linen management, accountability of controlled substances ordered via an Internet-based, prime vendor purchasing system, issuance and control of vendor parking placards.

STAFF

(D) Willie Vaughn, Chief
(A) Dierdra Carey
Gary Dangerfield, Driver/Materiel Handler
Leroy Nelson, Materiel Handler
Mitchel Feaster, Materiel Handler

Accomplishments

1. Established new policies and procedures in the receipt and distribution of material to complement the electronic scanning of material entering the Institute. This action was taken to more efficiently process over 1,000 packages per month and resulted in 100% accountability for nonexpendable items received in the Central Receiving Warehouse.
2. Implemented procedures and acquired equipment needed to comply with DoD regulations on the harvesting and storage of ozone-depleting chemicals (ODC) contained in refrigerators, freezers, and ice machines. These items are then turned in for disposal at the Defense Reutilization and Marketing Office (DRMO) at Ft Meade.
3. Coordinated with the AFIP Automation Management Division and the PBO to ensure that technical inspections of all information technology equipment (ITE) were performed only by certified personnel and that computer hard drives containing unclassified material were not being erroneously destroyed as a matter of routine in contravention of DoD policy. This resulted in thousands of dollars in savings to the government through reutilization, and also made possible the AFIP's donation of ITE to Ballou Senior High School through the DoD Computers for Learning Program.
4. Reviewed and approved $283,840 in requests for office supplies and equipment through the Corporate Express Prime Vendor Purchasing System, for a total of 75,064 items. Periodic reviews of prices and price challenges were conducted that resulted in increased savings to the Institute.
5. Conducted accident- and incident-free logistics support operations involving the movement of hazardous materials, large equipment, and palletized loads using a variety of materials handling equipment in a warehouse office setting with limited floor space and other structural constraints.

HAZARDOUS SUBSTANCE MANAGEMENT SYSTEM BRANCH

The HSMS Branch provided overall direction, guidance, technical, and managerial support in the life cycle management of hazardous substances, coordinating with the WRAMC Garrison Environmental Office (GEO) and the AFIP Chemical Hygiene Officer.

STAFF

(A) Gayle Cabral, SGT, USA, Supply Technician
Christopher Jordan, Hazard Material Management System Technician
Christeen Baker, Supply Technician, HAZMAT Operator

Accomplishments

1. Coordinated with the AFIP AMD and the GEO Database Administrator to install the DART database to provide electronic access to over 15,000 material data sheets.
2. Increased the number of new item records being established within 2 days of submittal of the HSMS Chemical Processing Sheets, for an overall rate of 95%. This significantly reduced the number of temporary labels being sent to laboratories and storage sites while awaiting production of HSMS barcode labels.

3. Worked with newly assigned laboratory and administrator personnel to ensure that quarterly inventories were conducted in approximately 90 sites involving over 20,000 items, and that expired chemicals were either disposed of or action taken to extend the expiration dates. These efforts contributed significantly to successful ratings during the past CAP inspection and contributed to the Institute's continued accreditation.
4. Received laudatory comments from the GEO staff during announced and unannounced visits to AFIP laboratories and the HSMS Branch where business practices, policies, procedures, and the overall management of the HSMS tracking program was observed and evaluated.

PROPERTY MANAGEMENT DIVISION

The Property Management Division is composed of the Property Management and Biomedical Maintenance Branches. The division procures maintenance and related services for the Institute, including processing and follow-up on purchase requests (DA Form 3953) of routine, emergency, and renewal services for medical and nonmedical equipment, construction, repairs and maintenance, rental, leases, lectures, and training. The division acts as liaison between the vendor, DFAS, and the AFIP customer.

STAFF

(D) Lisa N. Wilson, CPT, MS, USA, Chief
(A) Mark Reefer, CPT, MS, USA, Chief
Rudolph Wynn, Property Book Officer
SPC Monias Allen, Supply Technician
Phyllis Nicholson, Purchasing Agent
Ty Lassiter, Supply Technician
Cliff Ayers, Supply Technician

PROPERTY MANAGEMENT BRANCH

Maintains 100% accountability of all equipment on hand. The value of the Institute's formal Property Book now exceeds $41M. We provide all required administrative and hand receipt management assistance to support the Institute's 800 scientists and administrators.

Accomplishments

1. Facilitated the purchase of 2 MEDCASE items valued in excess of $296K.
2. Submitted 103 new CEMEP requirements valued at over $2.5M for the 2003 program.
3. Submitted 2 new MEDCASE requirements valued at $697,026.
4. Obtained a $25K credit card through the Ft Detrick Contracting Office to purchase GSA contracted items totaling 42 purchases at $84,174.
5. Effectively managed 93 hand receipts totaling over 8,000 pieces of equipment with no loss to the government.
6. Processed 712 excess items for turn-in totaling $3,959,475 through the DRMO.
7. Donations to Schools for Higher Learning Program totaled $76,454.
8. Processed 97 purchase orders valued at $1,390,767.

BIOMEDICAL MAINTENANCE BRANCH

The Biomedical Maintenance Branch:

- Provides scheduled maintenance services, unscheduled repairs, and technical inspections, and prepares site surveys for MEDCASE/CEMEP and newly purchased laboratory equipment throughout the Institute.
- Implements documents and assesses programs to ensure continued quality of services.
- Provides technical advise and consults with pathologists, medical technologists, techni-

cians, and researchers in the purchase of new equipment.
- Assures clear and definitive communication within the Institute on biomedical issues, procedures, and reporting.
- Provides procurement processing for maintenance services for laboratory/medical equipment throughout the Institute.

STAFF

George Williams, Chief
(A) Victoria Chapman, SGT, USA, Biomedical Maintenance Technician
(D) Micheal Patnode, SPC, USA, Biomedical Maintenance Technician
Bridgette Cobblah, Senior Biomedical Maintenance Technician
Willie McDaniel, Senior Biomedical Maintenance Technician

Accomplishments

1. Provided site preparation assessment for CEMEP and MEDCSE requirements valued at $3.1M.
2. Accomplished 97% of required preventive maintenance services on 6,000 medical items.
3. Processed and managed annual maintenance contract for laboratory/medical equipment valued at $500K.
4. Performed technical inspections for turn-in and issued on over 250 pieces of laboratory/medical equipment.

PHYSICAL SECURITY DIVISION

The new Physical Security Division provides and coordinates physical security plans, crime prevention measures, force protection policies, and antiterrorism strategies.

STAFF

C. Christian Di Mercurio, LTJG, MSC, USN, Chief
(D) Anthony Parnell, Physical Security Manager
(A) Everett Golihew, Physical Security Manager
Armenta Thomas, Supervisor
Russell Muse
Eric White
Andre Baker
Brenda Goldring
Joseph O'Pharrow
Aaron Askew
Ethel Finklea

Accomplishments

1. Establishing physical security programs to plan, formulate, and coordinate physical security matters and ensure practical, effective, and common-sense measures.
2. Identifying the Institute's physical security needs by conducting surveys, assessments, and inspections of all departments, divisions, and directorates.
3. Recommending physical security considerations in the preparation of installation engineer construction projects, including the design phase. Ensuring security considerations are included in new construction, renovation, modification efforts, or lease acquisition.
4. Developing a systematic approach to the design of physical security programs to ensure protection of all command assets at the Institute and other locations occupied by AFIP.
5. Developing the Institute's threat statement with local intelligence and law enforcement support elements.
6. Monitoring resource management (dollars and personnel) of the Institute's physical security program. In coordination with the Comptroller, plan and program necessary resources for physical security projects in the program budget cycle.

Franklin D. Rowland, LTC, MS
Director
Date of Appointment — 5 August 2002

DIRECTORATE OF INFORMATION MANAGEMENT

The Directorate of Information Management provides information management, technology, and services to the Institute. Under the provisions of AR 25-1, the directorate provides support for automation, visual information, telecommunications, records management, and distribution services to the Institute. The directorate designs and implements state-of-the-art technologies to deal with important military issues.

The directorate is organized into 4 divisions and the Office of the Director:

1. Automation Management Services
2. Distribution Center/Mailroom Distribution Center
3. Records Management
4. Visual Information

STAFF

Franklin D. Rowland, LTC, MS, Director
Albert J. Judd, Deputy Director
Faith R. Dixon, Administrative Officer
Jeannette Griffin, Parking Manager/Administrative Officer

AUTOMATION MANAGEMENT SERVICES DIVISION (AMSD)

Celia A. Quivers, CDR, MSC, USN
Chief
Date of Appointment – 30 June 2003

The Automation Management Services Division (AMSD) provides a comprehensive range of automation support, communications, and other information management services to the Institute. The AMSD manages a local area network of more than 1,000 clients, including support to remote buildings at Forest Glen, Silver Spring, and the AFIP Annex in Rockville, Md. The AMSD acquires and maintains administrative and clinical software applications for the Institute on approximately 30 servers.

The division is organized into 5 branches:

1. Customer Support/Training
2. System Development/Migration
3. Computer Operations
4. Network Support/Migration
5. Contract Support

STAFF

Office of the Chief

(A) Celia A. Quivers, CDR, MSC, USN, Chief

(D) Edward J. Sullivan, LCDR, MSC, USNR, Chief
Edwanna C. Jones, Information Assurance Manager
Rose Oscars, Telecommunication Security and Control Officer (TSCO)

Customer Support/Training

(A) William G. Strnad, III, LTJG, MSC, USN, Helpdesk Manager
Gerald Winchester
(A) Garrett Larson, PFC
John Simpson

Systems Development/Migration

Alec MacClintock
Barry Schell
Patricia Niwenizin

Computer Operations

Bobby Knight, Assistant Chief
Glenda Williams

Network Support/Migration

William Rohland, Assistant Chief
(D) Herbert N. Green

Contract Support

Aleksander Bruslavskiy
David Bryant
Marko Djukanovic
(A) Michael McClease
(A) James Jennings III
Cheryl S. Ton
John S. Allers
Jamie Nola
Peter Gray
Stephen McDowell
Theo Blount
Tan Ly
Guy Kelly
Roza Podkovyrova
(D) Demitry Pavlov
(D) Salita Vladimir
Jesse Tristan

INFORMATON SYSTEM SECURITY AND AWARENESS PROGRAM

The Chief of AMSD is Information Assurance Program Manager and manages AFIP's Information Systems Security staff, whose responsibilities include computer system security training and awareness, computer network, telephone, and email security. By placing a key point of contact in over 60 departments and 3 remote sites, the Institute is able to standardize each department in the area of computer security in accordance with AR 25-2 regulation. Information Assurance Program Manager, CDR Celia Quivers, directs a staff of over 70 members.

STAFF

CDR Celia Quivers, Information Assurance Program Manager
Edwanna C. Jones, Information Assurance Manager
Alec MacClintock, Information Assurance Network Officer
LTJG William Strand, Assistant Information Assurance Network Officer
Information Assurance Security Officer(s) – one to represent approximately 60 departments within the AFIP.

IMPACT

- Implemented phase II lease program for computer desktops.
- PIMS development team added many new services, enhancing the prior release of PIMS 2000. Additional functions were added and made available to AFIP staff on the PIMS intranet site, including many new reports.

- Our email server and primary storage devices were vastly improved in capacity and speed.
- AMSD staff continued support of network, server, telecommunications, and PC operations.
- In the area of computer security, most AFIP departments and the AFIP as a whole passed all inspections and received accreditation for 2003.

DISTRIBUTION CENTER/MAILROOM DISTRIBUTION CENTER

We support the Institute's mission through receiving, processing, dispatching, delivering incoming/outgoing correspondence, sorting, distribution, tracking, mail directory service, and mail redirect service. We service approximately 63 departments at approximately 150 points.

The Distribution Center provides consistent, efficient, customer-friendly service and guidance to the Institute. Besides satisfying all of AFIP's needs, the center is subject to DoD regulation and U.S. Postal regulation. It has been especially helpful to the Institute in providing email notification to all departments for Registered/Certified and USPS Express packages. The Distribution Center processes approximately 100,000 pieces of mail annually with little or no inconvenience to the staff or the mission of the Institute

STAFF

Lenora Hicks, Supervisor
Kevin Doster, Mail Clerk

RECORDS MANAGEMENT DIVISION

Bonnie Short, Management Analyst (Records Management)

The Records Management Division supports the staff of the AFIP with forms, publications, printing, training, consultation, and archiving under the Records Management Program. The division ensures that all Institute forms, directives, and media are current, thus keeping up with the latest technology to optimize time and enhance the paperless office. The division is responsible for the Institute's digital imaging copier program, including the replacement and update of many of the centrally located copiers to include network fax, scanning, and printing, which entails supplies, a new lease agreement, and an improved maintenance service. The copier program will save money and eliminate excess purchases of fax and printers throughout the Institute. The division supports Freedom of Information Act (FOIA) and Privacy Act (PA) functions, and updates AFIP's regulations and policy letters. We have installed the 4.8 version of the AMEDD Electronic Forms Support System (AEFSS), which includes electronic signature throughout the Institute.

VISUAL INFORMATION DIVISION

ELECTRONIC MULTIMEDIA IMAGING CENTER (EMIC)

During 2003, the Digital Imaging and Graphics Service (DIGS) produced 67 poster sessions, a slight decrease from 2002. Additionally, the DIGS scanned and corrected over 28,000 images, which reflects a growing interest in archiving images for more convenient retrieval. The DIGS also produced 27 new PowerPoint on-screen shows (as well as updating previously produced presentations) and 42 pieces of original art work for publication and lectures.

STAFF

Douglas A. Landry, Visual Information Specialist
Leonard C. Fitzgerald, Trainee
James A. Nola, Student

EXHIBIT PRODUCTION BRANCH

The Exhibit Production Branch (EPB) is responsible for producing and presenting medical and scientific exhibits for the DoD Tri-Service Medical Command. The EPB's services are also available to the Veterans Administration, US Coast Guard, AFIP, National Museum of Health and Medicine, and the Commissioned Corps of the U.S. Public Health Services.

The EPB provides management services for portable and custom-made exhibits and poster sessions. It is also responsible for shipping and show-site set-up, maintenance, and storage for local and traveling medical/scientific exhibits. The EPB provides these services for qualified customers attending conventions, symposiums, and exhibitions locally, nationally, and internationally.

The mission directive covers the procedures for requesting, producing, and displaying medical and scientific exhibits through the EPB's scientific illustration, exhibit design, and production processes.

STAFF

Larry Claiborne, Chief
Pauline Dixon, Illustrator
Harold Felder, Illustrator
Alan Giese, Exhibit Specialist
(D) Seth B. Jones, Photographer
William McLain, Illustrator
(D) Michael A. Smith, TSgt, USAF
(D) Erin Oliphint, SrA, USAF
David Shupay, SSgt, USAF
Christopher M. Zavestoski, SSgt, USAF
Venetia Valiga, Illustrator
Cassaundra Wood-Gilchrist, Exhibit Coordinator/Admin Support Spec.

Accomplishments

- Two major exhibit installations were produced for the National Museum of Health and Medicine, which included the construction and installation of a multimedia photographic presentation entitled "Conception to Birth," and an exhibit detailing the history of gastrointestinal diagnostic instruments, which included mounting historical artifacts in display cases. A third major installation is currently underway in the Museum on the subject of battlefield surgery.
- The EPB served the Office of the Surgeon General of the Army by updating the photomural presentation displayed in their office suite describing the primary service missions of the Army medical community.
- In support of the nation's military efforts to create a stable government in Iraq, EPB quickly responded to an urgent request from the OAFME to prepare a photographic poster presentation to brief Iraq's interim governing council on the forensic identification of the bodies of the 2 sons of Saddam Hussein. After the elimination of the 2 men, EPB prepared a small relic of the incident for presentation by the OAFME to the Surgeon General of the Army to commemorate the achievement.
- The EPB provided general graphics services to the AFIP, including printing, mounting, and lamination of poster sessions, custom framing and matting services, production of flyers, brochures, certificates and posters, awards and signage, as well as graphics support for the Institute's Office of Public Affairs.

Traveling Exhibit Client Services

- We managed the shipping and showing for 30 conference requests. EPB secured booth spaces and services for 177 booths in 2003 totaling 17,700 square feet of conference floor space nationally and internationally.
- We managed 70 booth spaces alone at AMSUS 2003, our largest number of booths at any AMSUS to date. USAMRMC had our office secure 25 booth spaces for MG Lester Martinez-Lopez' MRMC COMMAND Exhibit. We supported a larger participation in TRICARE in Washington, DC, supporting and managing 17 booth spaces for 11 customers. The AUSA Medical Symposium held in San Antonio, Texas showed increased participation by 6 agencies. Our group participation in the 6th Annual Force Health Protection Program was also increased by 3 agencies.
- We managed, shipped, and showed at 3 international events, including the AFIP/RTPA-

Vet Path in Dublin, Ireland at the EUROSO Conference in September, and their exhibit showing at the American College of Veterinary Pathologists in Alberta. We provided graphic support for the Radiology Department on their trip to Vienna in March.

- New exhibitors that requested our services in 2003: MILVAX, Ft Sam; SMART Burn, Ft Sam; STRYKER Ambulance, Ft Sam; MEDFAC, WRAMC and DENCOM, Ft Sam. We look forward to serving them in 2004.

Exhibitors in 2003:

Conference Title	Date	Participant	Site
Reserve Officers Association	19-21 Jan 2003	MODS	DC
		USA CHPPM	
TRICARE 2003	27-30 Jan 2003	USA MEDCOM	DC
		USA CHPPM	
		HEALTH FORCES	
		USA PASBA	
		DOD/VA CPG	
		MODS/MEDPROS	
		AFIP-PAO	
		AFIP-ACTUR	
		DHCC-WRAMC	
		RITPO	
Healthcare Management Service Systems	9-13 Feb	RITPO	CA
		MODS	
		PASBA (no show)	
American Association of Forensic Scientists	17-22 Feb	AFIP-DNA	CO
		OAFME (cancelled)	
European Conference On Radiology	7-11 Mar	AFIP-Radiology	Austria
Society of Toxicology	9-13 Mar	AFIP-RTPA	UT
US & CanadianAcademy of Pathology	24-26 Mar	AFIPARP	DC
Society of Army Medical Lab Scientists	25-26 Mar	DNA-AFIP	NV
		AFIP-Environmental Toxicology	
29th Environmental Conference	7-10 Apr	USA CHPPM	VA
Army Aviation Association of America	9-12 Apr	USAARL	TX
Aerospace	4-8 May	NAMRL	TX
American Industrial Hygiene Conference	2-14 May	USA CHPPM	TX
ARMOR Conference	17-22 May	AMEDD	TN
AUSA Medical Symposium	2-8 June	USA MEDCOM	TX
		AMEDD	
		USA CHPPM	
		MRI/OTSG	
		DHCC/WRAMC	
		WRAMC Vaccine	
		HEALTH FORCES	
		USAMRMC	
		AFIP-PAO	
		DOD/VA Clinical Practice Guidelines	
		MILVAX	
		DHSD	
		SMART BURN	
		STRYKER AMBULANCE	
		DENCOM	
Society of Toxicologic Pathology	16-19 Jun	AFIP-RTPA	GA
Region 1 Tricare	16-20 June	HEALTHeFORCES	VA
American Veterinary Medical Association	19-22 July	AFIP-RTPA	CO
TC Week	22-26 July	USA MEDCOM	Cancelled
6th Force Health Protection Conference	10-12 Aug	USA MEDCOM	NM
		USA CHPPM	
		DOD/VA CPG	
		HEALTHeFORCES	
		DHCC-WRAMC	
		USAMRMC	

		AMEDD School	
		WRAMC Vaccine	
		AFIP-PAO/ARP	
		JRCAB – Ft Detrick	
Infantry Conference	8-11 Sept	USA MEDCOM	GA
EUROSO	10-13 Sept	AFIP-RTPA	Ireland
National Guard Assoc	14-17 Sept	AMEDD Regiment	MI
		AMEDD School	
		MRI-OTSG	
		USA MEDCOM	
		MODS/MEDPROS	
AUSA Annual Mtg.	6-8 Oct	USA MEDCOM	DC
		USAMRMC	
		WRAMC Vaccine	
		MODS/MEDPROS	
		DHCC-WRAMC	
		HEALTHeFORCES	
		MODS/MEDPROS	
		MRI-OTSG	
		MEDFAC – WRAMC	
		USA CHPPM	
		AFIP-PAO/CAME	
		AMEDD Regiment	
		AMEDD School	
Joint Artillery Conference, Ft Sill	20-22 Oct	USA MEDCOM	OK
Joint Non-Lethal Weapons Conf	4-7 Nov	AMEDD	VA
AMSUS	16-21 Nov	USA MEDCOM	TX
		USACHPPM	
		AMEDD Regiment	
		AMEDD School	
		AMEDD Enterprises	
		USAMRMC	
		AFIP-PAO/CAME	
		AFIP-Legal Medicine	
		DOD/VA CPG	
		DHCC/WRAMC	
		WRAMC Vaccine	
		JRCAB – Ft Detrick	
		MRI-OTSG	
American College of Veterinary Pathology	4-6 Dec	AFIP-RTPA	CAN
Radiologic Society of North America	30Nov-3Dec	AFIP-Radiology	IL
AFCEA – Ft Gordon	4-6 Dec	USA MEDCOM	GA

PHOTOGRAPHY BRANCH

The Photography Branch provides all photographic services necessary to the Institute to fulfill its mission of consultation, education, and research. Under the provisions of AR 25-1, the Photography Branch provides highly technical photomicrographs, gross wet tissue specimen photography, preparation of PowerPoint lecture slides, location photographs, and all other forms of photography to fill the needs of the scientific staff of the Institute.

Veronica Ferris, MFS, Chief (Acting), Photography Branch

- Photography Section (Photomicrography and Gross)
- Photography Laboratory Section

STAFF

Veronica Ferris, MFS, Chief, Photography Section
Anthony E. Shirley, Medical Photographer
Andy Morataya, Medical Photographer
Thomas Lynn, Laboratory Photographer
Aubuy C. Chester, Laboratory Photographer
Steve Kruger, Medical Photographer
Vincent Neaz, Laboratory Photographer

Seth B. Jones, Laboratory Photographer
Sharon Kelley, Laboratory Photographer
Julianne Toohey, Laboratory Photographer
Anita Belen, Laboratory Photographer
Robert Edwards, Medical Photographer
Leonard Fitzgerald, Laboratory Photographer

Accomplishments

The 2 sections have been consolidated, with Veronica Ferris as the acting Chief since December 8, 2003. Reorganization has begun by clearing out many old and unusable pieces of equipment and furniture. New training methods have been set in place, with knowledgeable staff training others who have not had experience with the newer equipment.

NATIONAL MUSEUM OF HEALTH AND MEDICINE

Adrianne Noe, PhD
Director
National Museum of Health and Medicine

Adrianne Noe, PhD
Director
Date of Appointment—September 1995

NATIONAL MUSEUM OF HEALTH AND MEDICINE

STAFF

Donna R. White, Administrator
Steven Solomon, Public Affairs Officer
Theresa Butler, Staff Assistant
Susan A. Martin, Public Affairs Assistant
Maurice Young, Special Events and Facilities Manager
Shelly Currie, Visitor Services Representative
Melba Stewart, Visitor Services Representative

IMPACT

The NMHM promotes the understanding of medicine, past, present, and future, with a special emphasis on American military medicine. It inspires interest in personal and public health. As the nation's museum of health and medicine since 1862, we aggressively identify, collect, and preserve important resources to achieve a broad agenda of innovative exhibitions, educational programs, and scientific, historical and medical investigations.

To achieve this, we promote the responsible use of the nation's National Historic Landmark collection by continuing to catalog the collections, to record detailed information about the holdings and to edit record to make databases available for the Internet, which allow the collection to be more accessible to researchers. We cultivate ties with professional medical societies and with the Department of Defense to assist in collecting artifacts significant to the history of the practice of medicine and the evolution of medical technology, emphasizing military medicine. Finally, we collect, preserve and interpret modern examples of significant medical technology to document the history of the practice of military medicine and the evolution of medical technology to ensure the continued development of the National Museum of Health and Medicine, AFIP, as a Department of Defense asset and as a national and international resource for the military medical community, professional health care workers and the general public.

In so doing, we emphasize the Museum's focus on critical public and military health issues, the importance of the Museum as a bridge between biomedicine and the general public, the Museum's role in helping to recruit the health professionals of tomorrow, and the Museum's research programs in medical medicine, medical imaging, and other areas.

The Museum is organized into distinct areas: Office of the Director, the Department of Public Programs and Exhibitions, the Department of Collections and the Research Collections Department.

FACILITIES AND SPECIAL EVENTS

The Museum's Facilities and Special Events supports the National Museum of Health and Medicine (NMHM) in the following areas: physical security, storage, movement, maintenance; repair and accountability of materials, housekeeping; exhibit upkeep and maintenance; waste collection and disposal, and notifies the Provost Marshal of Museum visitation on to the Walter Reed Army Medical Post. This Department serves as NMHM liaison with the AFIP

Office of Safety Management. This Department also maintains an inventory of all hazardous chemicals located within the Museum, serves as a member of many safety-related committees, and investigates all facilities safety issues concerning staff and visitors.

Special Events supported the NMHM, the AFIP, WRAMC, and the surrounding community by hosting and scheduling events such as: The National Counsel of Negro Women's Annual Black Family Reunion kick-off reception, WRAMC's Medical Management of Chemical and Biological Casualties Training Course, C. L. Davis Pathology Course, Medical Effects of Ionization Radiation Course, WRAMC-sponsored events and conferences, the AFIP Department of Medical Education's *Medical Education Course* and the annual Ash Lecture. It has written and updated Standard Operating Procedures for Museum meetings and receptions that are given to the contact person responsible for hosting an event at the museum. The office staffs and secures each event and provides lists of Department of Defense certified specialty caterers who are bonded and familiar with the policies and procedures of the Museum. The office also supports presenters with their audio/visual needs.

PUBLIC AFFAIRS

IMPACT

The Museum increased its media presence, continued marketing efforts and strengthened relationships within the business, museum, and tourism communities to increase awareness of the Museum throughout the Washington DC metropolitan area, and among tourism and military audiences.

The Museum maintains a relationship and cultivates ties with as many area grassroots and cultural-based organizations as possible in order to better position itself as a significant historical, community, and cultural attraction. The NMHM remained an active member of the Cultural Tourism DC, a consortium of more than 80 cultural and community organizations in Washington, DC with a common goal to strengthen the image and the economy of the District of Columbia by engaging visitors in the diverse heritage of the city beyond the National Mall and monuments. Through the CTDC, the Museum received prominent recognition in its publication providing an inventory of all DC cultural attractions by neighborhood and theme. The Museum benefits from other efforts organized through the CTDC, such as collaborative marketing materials, a joint product-licensing program, and a neighborhood heritage trail tour along the Georgia Avenue corridor. The Museum also increased its ties with the DC Convention and Visitors Association, the District of Columbia Chamber of Commerce, and the Washington, DC Convention and Tourism Corporation. The Museum remained a designated site on the Civil War Discovery Trail, which was named 1 of 16 National Millennium Trails in the United States by the White House. As a result, the Museum received recognition in marketing and promotional materials produced by the Civil War Trust at no cost.

The Museum responded throughout the year to hundreds of requests for information or assistance received by email, telephone, and mail from the general public.

Marketing

The Museum placed an emphasis on promoting programs and workshops to the local community to raise awareness of educational offerings and to increase program attendance. Specially promoted within the internal WRAMC and AFIP community as well as to the public were the monthly health fairs held at the Museum, including National Cataract Awareness Month Program, Prostate Health Month, National Breast Cancer Awareness Month, American Diabetes Month, and World AIDS Day.

Print advertisements for the Museum and its exhibits and programs appeared in:

- *Best Bets* (annual circulation: 750,000) distributed in the Washington DC metro area to Martz/Gray Line Tour riders, 65 hotels, DC and VA visitor centers, etc., and
- *Museums Washington Magazine* (quarterly circulation: 150,000) distributed to concierges and in rooms at more than 80 hotels in the Washington, DC area.

As an element of the AFIP, the Museum also reached the local military community through publication of print advertisements in the nine newspapers of *Comprint Military Publications* that support are distributed at the government installations within the National Capital region: *Pentagram* (weekly circulation: 27,000); *The Beam* (weekly circulation: 15,000); *The Journal* (weekly circulation: 10,000); *Henderson Hall News* (weekly circulation: 5,500); *Gazette* (weekly circulation: 37,000); *Stripe* (weekly circulation: 10,000); *Standard* (weekly circulation: 6,000); *Trident* (weekly circulation: 11,000); and *Sea Services Weekly* (weekly circulation: 10,000), reaching a combined circulation of more than 130,000.

A special effort was made during 2003 to promote "Battlefield Surgery 101: From the Civil War to Vietnam." Drawn exclusively from the Museum's historical archives and historical collections, the exhibit presents highlights of the evolution of military surgical activities over the last 140 years through a selection of photographs and 19th- and 20th- century artifacts. It is running indefinitely. There was significant coverage following the exhibit's grand opening gala, where the featured guest speaker was Richard Ursone, BG, USA, Assistant Surgeon General for Force Protection, US Army, Chief, Medical Service Corps, US Army Medical Command. The Scripps Howard News Service distributed a 1,000-word story and six images from the exhibit that was used by more than a dozen newspapers and television stations across the country. Ads were also printed in *Military Medicine: International Journal of AMSUS* and *Comprint Military Publications*.

Media Coverage

The Museum increased its writing and distribution of press releases to the media in 2003, resulting in increased media exposure. More than 325 stories and newsbrief items were printed in 2003, in publications with a combined circulation of more than 25 million. This coverage appeared in local, national, and international publications, as well as on TV and radio stations, the most notable being a major Scripps- Howard News Service feature article and a major feature story in the *New York Times*.

Some highlights:

> "From the blood-soaked farm fields of the American Civil War to the perilous roads of Iraq, for many soldiers life or death has been decided under a tent surrounded by battlefield surgeons. A new exhibit at the National Museum of Health and Medicine shows how battlefield surgery has both changed and remained much the same during the past 140 years. The museum itself was a product of the Civil War, as Army surgeon general Dr. William Hammond ordered that photographs of patients and procedures, as well as bullets and preserved bone and tissue samples, be collected to help evaluate and educate future battlefield doctors. Today, the museum is part of the Armed Forces Institute of Pathology located on the campus of Walter Reed Army Medical Center. It holds one of the world's largest repositories of medical artifacts. Central to the exhibit, on display indefinitely, is a collection of more than 100 photographs culled from a collection of tens of thousands depicting medics, forward aid stations and military hospitals in action. "There was no criterion in selecting the photos other than that it was an arresting image that helps tell the story of military surgery," said Mike Rhode, archivist of the museum's historical archives. "The best photos are very gripping." Despite their documentary nature, most of the photos in "Battlefield Surgery 101: From the Civil War to Vietnam" are relatively bloodless, but there are some jarring color images of a lacerated liver and a leg destroyed by a mine. "We are a medical museum and we can display things that others can't," said Jim Connor, the assistant director of collections and co-curator of the display with Rhode. "The Smithsonian can't present the things that we do, and we believe this exhibit will help the public understand the challenges faced by those in harm's way and by those who care for them." Although the survivors of battles have always tried to give comfort to wounded comrades, Connor said organized care for the wounded didn't begin until the Civil War. Although today's medevac helicopters and armored vans are more sophisticated than the horse-drawn covered wagons of that era, the organization of battlefield medicine was much the same from Chancellorsville to Khe San. "As you walk around the room and look at the photographs of stretchers over the years, you notice they're basically unchanged since the Civil War," Connor said. "If it ain't broke, they don't try to fix it." The display _ along with other long-term exhibits specific to Civil War and Korean War medicine _ also dispels some of the popular myths about battlefield operations. For instance, ether, not biting of bullets or massive doses of whiskey, was the common form of anesthetic for both the Union and Confederate armies and later..."
> — *Scripps Howard News Service, December 23, 2003*

> "With a body count to beat "The Sopranos" and enough post mortem deduction to impress the staff of "CSI," the History Channel cashes in on viewer's fascination of all things morbid with "The Day They Died." A two-hour death fest, "The Day They Died" is a fairly sensational special that isn't above showing sloshing buckets of blood. But it's all in the name of history and education — this is trivia geek heaven with tantalizing gory details thrown in for fun. The question here, as well as the promotional pitch, is whether famous historical figures go out with a bang or a whimper. The exact cultural significance of this information is debatable, but at the very least, it makes great fodder for cocktail party conversation. Through fairly graphic re-creations and surprisingly descriptive

accounts, viewers learn the grisly details of the deaths of George Washington, Sigmund Freud and Wild Bill Hickok, among others. These accounts are then either debunked or confirmed by experts such as Dr. Sherwin Nuland, author of "How We Die," and Dr. Lenore Barbian, curator of the National Museum of Health and Medicine."
— *Variety, December 22, 2003* "Wars often produce advances in medicine and the Army Medical Museum was one product of the Civil War. Dr. William Hammond, the surgeon general during the Civil War founded the museum, now known as the National Museum of Health and Medicine, to gather lessons on battlefield surgery as the French and British did after the Crimean War, according to Chief Archivist Michael Rhode. The museum has opened a new exhibit at their Walter Reed Army Medical Center location entitled, "Battlefield Surgery 101: from the Civil War to Vietnam." The display includes photos and medical artifacts from the Civil War, the Russo-Japanese War, both World Wars, Korea and Vietnam. Jim Connor, assistant director of collections, said Vietnam was where the museum's photo collection ended. The first photo is a staged one from the Civil War showing a surgeon operating outside on a patient. Connor said the Civil War was where organized care for wounded Soldiers first began. Wounded Soldiers were removed from the battlefield and taken to aid stations and then on to hospitals, in much the same manner as today. The only differences are the medical knowledge and technology. "We picked the photographs on display because they cover roughly 100 years of military surgery, as well as illustrate interesting components of military medicine over that timeframe," Rhode said...There are even a few jarring color photos such as a lacerated liver and a leg blown off by a mine. "We can display things that other museums can't," Connor said. "The Smithsonian couldn't do what we have done." The photos also depict the history of radiology. There are photos of X-ray machines from the Turkish-Bulgarian War and portable units from World War I. One World War I era photo shows a technician using an early X-ray tube on a patient in a crowded ward and no lead aprons or other safety devices.
— *Pentagram, December 5, 2003*

"The National Museum of Health and Medicine's new exhibit of just over 100 photographs and accompanying objects spans about 100 years from the Civil War to Vietnam and deals with surgery on or near the battlefield. It reveals the evolution of the military operating room and the challenges of the men and women who work there. Drawn exclusively from the extensive holdings of the National Museum of Health and Medicine of the Armed Forces Institute of Pathology, "Battlefield Surgery 101" examines the breadth and depth of military surgical activities. Many of these images and films are being displayed for the first time. In selecting photographs, the exhibit's curators present realistic perspectives of the danger and challenges facing both fighting soldiers and the men and women whose duty it is care for them when they are in harm's way. Artifacts that range from medic's supplies and kits that span the twentieth century, prosthetic limbs, and surgical equipment enhance the exhibit. The exhibit is scheduled to open in mid-October 2003 and run indefinitely. For more information, please call 202-782-2200 or visit the museum at www.washingtondc.museum."
— *The Association of Military Surgeons of the United States Newsletter, Fall 2003*

"The National Museum of Health & Medicine, in Washington, displays seven tiny pieces of President Lincoln's skull, a lock of his hair, the bullet that killed him and casts of his hands made after the election of 1860. One hand is swollen from several days of shaking voters' hands. "Glimpsing that, you can see this mortal person made immortal," says Adrianne Noe, the museum's director. Her museum also displays the amputated leg of Civil War Maj. Gen. Daniel Sickles. He donated it just after losing it at the battle of Gettysburg in 1863. Until his death in 1914, he often visited it at the museum."
— *Wall Street Journal, November 21, 2003*

"A mineral powder that stops wounds from hemorrhaging. A bandage made of shrimp shells that seals cuts. Miniaturized ultrasound machines for instant diagnosis. These and other medical inventions being used on battlefields in Iraq and Afghanistan no doubt will be available in coming years in an ambulance or emergency room near you. They will join innovations from previous wars, such as anti-malarial drugs and various antibiotics, that we have come to take for granted...QuikClot is on display along with other artifacts from 20th- and 21st-century military conflicts in an exhibit open to the public at the National Museum of Health and Medicine at Walter Reed Army Medical Center, 6900 Georgia Ave. at Elder Street NW."
— *Washington Times, November 20, 2003*

" Steven Solomon, a spokesman for the National Museum of Health and Medicine in the

Walter Reed Army Medical Center off Georgia Avenue (www.wramc.amedd.army.mil), says visitors to his museum have been inconvenienced by increased security measures, but he doesn't think attendance is suffering significantly. The health museum gets about 50,000 to 60,000 visitors a year, Solomon says, mostly people affiliated with the military, health care professionals, school groups and academics. "Those who have a genuine interest, they find a way," especially scholars and academics, who come to the museum for its rare collections, Solomon says. "We could be in Timbuktu and they'd find us.""
— *Washington Business Journal, November 3, 2003*

"Visit the offbeat and little known museum, the National Museum of Health and Medicine, part of the Armed Forces Institute of Pathology at Walter Reed Army Medical Center. It's home to lots of medical oddities, including the actual pistol ball that killed President Abraham Lincoln, and displays of leeches, kidney stones, deformed skeletons, etc. They have the world's largest collection of microscopes, various battlefield-related medical equipment, and much more."
— *Globe Trekker, October, 2003*

"Got some free time and a, um, feel for science or medicine? The National Museum of Health and Medicine at Walter Reed Army Medical Center is recruiting volunteers for its docent training program. You'll want two hands free — one to turn in the application by Jan. 1 and the other to grip a real human brain, once you're a docent, along the Human Body Tour. Brains are among the soft tissue samples available for docents and visitors to handle; diseased tissues remain encased in jars. The museum's collection dates from the Civil War, when Surgeon General William Hammond gathered specimens of morbid anatomy from the battlefield and war hospitals. His research helped lead to the discovery that 400,000 Civil War deaths resulted from illness and disease — twice as many as from battle wounds, said Kathy LaPlante, manager of the training program. — *Washington Post, October. 14, 2003*

""From Conception to Birth" at the National Museum of Health & Medicine — Through August 29. Consider this exhibit a mondo high-tech version of those film strips you watched in 7th grade health class. Indeed, this is the birds and the bees for the MTV generation...and their parents. In "From Conception to Birth," you'll see high-tech images of a growing bambino and videos on human development, among other attractions. This is definitely a don't-miss before it closes August 29 at one of the planet's funkiest museums, the National Museum of Health & Medicine (6900 Georgia Ave. NW, 202-782-2200). FREE. www.natmedmuse.afip.org."
— *Washington Flyer Entertainment, Dining and Travel News, August 21, 2003*

"Sperm cluster like autograph seekers around a star-quality egg. New cells divide and multiply. By day 44 a spinal column has appeared, and a beating heart; soon come ears to hear it. Welcome to ourselves, as we've never seen us before, from Conception to Birth. If you're not already a fan of scientist and artist Alexander Tsiaras's recent book, this first-hand look, on view at the National Museum of Health and Medicine, ought to do it. Starting with the human embryo's earliest stages of development, more than 80 images reveal shapes and patterns of growth from never-before-seen angles, in what's been called an extraordinary marriage of fine art and cutting-edge medicine. How was it done? Breakthrough medical imaging technologies helped, as did access to the museum's Carnegie Human Embryology Collection, an invaluable resource focusing on the first eight weeks of life. Tsiaras then used unique scientific visualization software to "paint" an amazing harvest of views. If your clearest look inside a womb has come courtesy of a sonogram, prepare yourself for the next generation: colors of remarkable richness and subtlety, maximum clarity, and a breathtaking wealth of detail. You can also test your prenatal know-how at an interactive display. And don't miss the ten-minute video, which offers a trip through the liveliest nine months in town."
— *Museums Washington, Spring/Summer 2003*

"The first 2 months of pregnancy are when a human embryo takes shape. The Virtual Human Embryo project at Louisiana State University in Baton Rouge is creating a digital atlas for each of the 23 stages of this formative period. Each atlas is a database featuring computer-processed images of sectioned embryos from the Carnegie Collection, amassed over the last 115 years by the National Museum of Health and Medicine in Washington, DC The Web site provides working databases for two stages, 10 and 12. You can summon 3D reconstructions of the delicate embryos, flip through cross-sections, and study labeled structures. Above, developing blocks of muscle are visible along the back of this stage-10 embryo. Three completed databases can be ordered on CD or DVD for the cost of shipping,

and the team plans to make all 23 available online as they are finished over the next 4 years. One objective is to encourage researchers to reexamine human embryology, says co-principal investigator John Cork. Much of what's in the textbooks was extrapolated from animals and is sometimes wrong, he says. virtualhumanembryo.lsuhsc.edu."
— Science Magazine, April 11, 2003

"For 115 years, thousands of embryos that were lost in miscarriages have been preserved for study at the National Museum of Health and Medicine of the Armed Forces Institute of Pathology in Washington. Now, in an effort to make the embryos, known as the Carnegie Collection, accessible to students and scientists all over the world, scientists at Louisiana State University are translating some of the 7,000 embryos to digital. The goal of the project, called the Virtual Human Embryo, is to put together thousands of detailed images from the collection on a series of DVD's and CD-ROM's, which can be ordered from the project's Web site, www.virtualhumanembryo.lsuhsc.edu, at only the cost of shipping and handling. Human embryo development is divided into 23 stages over eight weeks; after that point, the embryo becomes a fetus with distinguishable human features. "Essentially, at least one embryo from each of the 23 stages is serially sectioned into multiple slices and a computer captures digital images of each slice under a microscope," said Dr. Raymond F. Gasser, a cell biologist and anatomist at the Louisiana State Health Sciences Center at New Orleans who leads the project. The images are electronically enhanced and stitched together with corresponding sections to recreate the embryo digitally. Doing this for an embryo from Stage 1, a one-cell zygote, is fairly simple, Dr. Gasser said. But a Stage 23 embryo, which is a little over an inch long, requires roughly 3,000 sections - an arduous task. The program lets users manipulate colorful three-dimensional reconstructions of the embryos, zoom in and out of the embryonic tissue, and find specific parts of the embryos"
— The New York Times, March 25, 2003

"With exhibits ranging from the disturbing to the sublime, the National Museum of Health and Medicine houses a diverse collection of medical artifacts, tools, and body parts. Established in 1862 to study diseases and injuries from the Civil War, the Museum has amassed a collection so vast only one percent of it can be displayed in its 15,000 square feet of gallery space. Highlights include skull fragments and the assassination bullet retrieved from Abraham Lincoln's skull; a brain attached to spinal cord, suspended in formaldehyde; and the Visible Human Project, which displays cross sections of the body on computer. Before you go: If your family is game, there is no better place in the Washington area to view these medical marvels."
— Washington Families Magazine, February 2003

"The National Museum of Health and Medicine in Washington, DC has one of the world's largest collections of human specimens, some of which are currently exhibited in the "From Single Cells. . . Human Reproduction, Growth and Development" display. This exhibit includes fetal specimens. Museum Public Affairs Officer Steven Solomon says their human specimen exhibits receive positive feedback. "Visitor surveys recently commissioned by the museum demonstrate that members of the general public consider the display of human tissue, including pathological and fetal, to be acceptable and appropriate," Solomon stated. He says the issue is not the display itself but the educational context for their display. "As a professional, scientific institution, it is our duty to help enhance and shape the natural curiosity of visitors into a unique and inspirational learning experience," he said."
— Oracle (Hamline University College of Liberal Arts), February 12, 2002

"Nearly 70 attendees received a crash course in forensic pathology and Civil War medicine and history Jan. 9 when they attended Paul Sledzik's lecture on "Bones, Bodies and Bullets," sponsored by Fort Detrick and the National Museum of Civil War Medicine. A forensic anthropologist and curator of the anatomical collections for the National Museum of Health and Medicine, Sledzik regaled the crowd with tales of Civil War wounds, of bone injury basics and of myths the museum has put to rest. Founded in 1862 as the Army Medical Museum that was to house a medical history of the Civil War, the museum is full of specimens field military surgeons sent in, along with their surgical reports. "What's neat about them is that we know the name of every soldier and the battle they were injured in. We have all the original hand-written surgeon reports...and we can go into our archives and get the photographs of some of these guys, so it forms a nice, comprehensive set of information about Civil War medical history," Sledzik said. That's one reason the museum was created: to answer why two soldiers with similar injuries had different outcomes. By having the records, it let surgeons look at the differences in medical treatment and which

provided the best survival rate. Bones, too, have stories to tell. "We look at skeletal remains of Civil War soldiers to see what we can learn from them," Sledzik said. "Because we know (from the medical records) for all these guys the day they were injured and the day they died, ... we can actually look at the change on the surface of the bone after a week, two weeks, three weeks. We take that information and apply it back to unknown forensic cases where you have bony change and you want to make an interpretation on it." Their research isn't just for research's sake, however. The data forensic pathologists gathered from looking at bone trauma has been used in child abuse cases to determine how long ago an injury occurred. "These guys help us make those interpretations," he said, referring to the 2,000 skeletons housed at the museum on 16th Street in Northwest Washington. Because of the number of remains there, the museum regularly hosts guests who want to visit the remains of their ancestors. In fact, Union Maj. Gen. Daniel Sickles, who, according to legend, packed his own amputated lower leg during the battle of Gettysburg and sent it to the museum with his calling card later, visited his limb at the museum after the war. The skeletons have also advanced today's technology..."
— Fort Detrick Standard, January 23, 2003

"Whether (Maj. Gen. Dan) Sickles almost single-handedly lost or won this crucial battle of the Civil War is a point that historians debate to this day. Either way, he made a great sacrifice, for Sickles also had his lower leg shredded by a cannonball at Gettysburg. But the leg's amputation - bad luck for most bipeds - apparently served Sickles well. Among other things, it probably saved him the disgrace of a court-martial for disobeying orders. The wound also enhanced his reputation as a war hero. True to his flamboyant form, he donated his lost leg to an army medical museum (now the National Museum of Health and Medicine) and courted women by escorting them there to see his disembodied bones."
— Antiques Roadshow, January 13, 2003

"A brain museum on the Web? You'll find it at www.brainmuseum.org. Check out images and information from the world's largest collection of the brains of mammals. Download photos of brains for everything from kangaroos to seals, camels and bats (not to mention people). Learn about brain function, brain development and "brain architecture." This intriguing site is a cooperative venture of the University of Wisconsin, Michigan State University, the National Museum of Health and Medicine and the National Science Foundation."
— Gainesville Fla. Sun, January 6, 2003

Also, in 2003 the Museum's staff met with and/or was interviewed by media representatives for stories or documentaries on:

- "CBS News Sunday Morning"
- CNN
- *Discover Magazine*
- "Discovery Travel"
- "Gallileo"
- German Public Television
- History Channel
- KRTC-FM, KNBC (Nebraska)
- LMNO Cable Group/Discovery
- *National Geographic*
- *National Geographic Explorer*
- National Public Radio
- *Tactical to Practical*
- Teaching Learning Channel
- WJLA-TV 7 (Washington, DC)
- WKQZ-FM, WTRX-AM (Michigan)
- WPFW-FM (Washington, DC)
- WTOP-AM (Washington, DC)
- WTTG Fox TV News (Washington, DC)

Museum Newsletter

The Museum's newsletter, "Flesh and Bones," was published during 2003, with a circulation slightly larger than in 2002. In addition to being distributed internally to the departments of

the AFIP, the newsletter was mailed to the Museum's mailing list, which includes the media, schools, libraries, and visitors who have signed up to receive information by mail. It contains articles that are researched and written by the Museum staff, about new exhibits, special programs, recently acquired artifacts, loans to other museums, etc.

The World Wide Web

The Museum Public Affairs Office expanded content on the Museum website to include information about new exhibits, such as "Research Matters: A GI Journey," based on work by the AFIP's Dr. Leslie Sobin. In addition, the Museum posted information about accomplishments of the Museum's staff called *Staff on the Go*. The Museum's site was also linked to other museum and tourism websites. *Web Trends* reported that the website averaged more than 16,000 hits daily, an increase of about 10,000 hits daily over 2002, and the average unique viewer looking at 4 different pages for nearly 9 minutes during each visit to the website. The Museum ensures accurate and timely information is provided to online website information resources and is currently linked from 212 other sites.

PUBLIC PROGRAMS AND EXHIBITIONS

The division directs and coordinates operational and interpretive components of the Museum. This includes administration, exhibitions, public programs, educational tours, facilities use, and related activities. Division staff worked with governmental agencies, professional associations, museums, and individuals to develop interpretive strategies that promote greater public awareness of contemporary and historical perspectives on disease, public health, and health education.

STAFF

Administrative

James Carey Crane, Exhibits Manager
Jeffrey Mitchell, MA, Visual Information Specialist
Janet Melson Burns, MA, Public Programs Coordinator
Kathy LaPlante, Tour Program Manager
Sandra V Saluke, MAT, Educator

Docents

Sal Battiata, MD; Ed Beeman, MD; Catherine Bonomo, BS; Edward Byrdy, BS Ph; James DePersis; Ira Green, MD; Marjorie Hughes, MD; Regina Hunt, MEE; Marianne Jessee-Folfronk; MS, LaVerne Madancy; MA, Kay McMahon, BS; Richard Mulvaney, MD; Colleen Pettis, MA, MS; Anne Pollin; Anthony Rondello; Enid Rosen, BS; Christian Sepulveda, AS; Shen Sung, MD, Stephen Schiaffino, PhD; Carolyn Whittenberg, MSN and Alan Winshel, MD

Volunteers

Kara Cromwell, Michael Mendelson

PUBLIC PROGRAMS

This year marked the third year that the Museum collaborated with Health Pact, Inc, a local nonprofit company that assists community organizations by securing medical personnel, community groups, and medical supplies to perform certain medical screenings at health fairs, to present "National Health Awareness Kickoff." This series of programs held the first Saturday of each month acknowledges and explores health awareness issues. Medical professionals provided in-depth information on the selected health issue of the month and provided free health screenings for Museum visitors interested in the state of their health. This program continues to be an important part of the Museum's ongoing programs.

Programming presented in February in conjunction with the exhibit, "Human Body, Human Being", included "Women Hearts", a program that featured a health play, personal stories by two heart disease survivors and a discussion on heart disease in women by a medical professional. The play, entitled "Helen and Hilda," featured Cheryl Beversdorf, RN (who wrote and produced the play) as a middle-aged survivor of heart disease who recounts her struggle with the disease to a former college roommate. Virgie Harris-Bovelle and Ronni Posner, PhD, presented talks about their personal experiences surviving heart disease. Mary J. Rohrer, MD, a cardiologist at WRAMC lectured about heart health and highlighted symptoms and indicators of heart disease in women.

In March, the Museum presented "Get in Touch with Your Sense of Smell", a program that celebrated the olfactory system and the important role it plays in our everyday life. This annual program was designed to allow children and adults opportunities to explore the olfactory

system and how it works through lots of hands-on activities and presentations. Richard L. Doty, PhD, professor and director of the Smell and Taste Center at the University of Pennsylvania School of Medicine, Pamela Dalton, PhD, and other staff of the Monell Chemical Senses Center presented lectures and demonstrations that further described and examined the olfactory system for Museum visitors.

In May, a 2-hour program entitled "Exercise for a Healthy Skeleton" was presented. This program was designed to allow younger audiences the opportunity to explore the human skeleton and its functions, as well as learn what to eat to help strengthen bones and ways to keep them healthy through exercises. This program was also designed to fulfill the requirements for the Junior Girl Scouts' Fun and Fit badge.

"In the Gulf: Confronting Health and Medical Concerns", a military medicine program, was presented in June. This program provided the audience glimpses of the cultural and environmental differences in the Persian Gulf region; personal struggles of enlisted personnel facing emotional, environmental, health and medical issues; and health and medical services provided to military personnel at a time of war. Lt Col Kondi Wong, MD, Chief, Division of Neuromuscular Pathology at the AFIP, Penny L. Rodriguez, executive assistant to the director of AFIP and executive administrator of field operations at AFIP were speakers.

In October, the Museum presented "Learning About Forensics", a day-long program that revealed how forensic science plays a increasingly larger role in the medical profession, scientific laboratories, law enforcement, and people's daily lives. Paul Sledzik, the Museum's curator of Anatomical Collections, Maj Michael E. Smith, MC, USA at the Office of the Armed Forces Medical Examiner, and Kimberly Murga, supervisory DNA analyst of the Armed Forces DNA Identification Laboratory provided biographical information, defined the special work that they do, and described specific cases or events in which they have been personally involved. This program also included two "Forensics Mystery" workshops that allowed children and adults to participate in hands-on activities designed to gain a better understanding of forensic science. The participants closely examined replicated skeletal remains, dental evidence, and fingerprints to determine to whom, among the list of missing persons, these remains belonged.

Collaborations

The NMHM collaborated for a fourth year with Dana Alliance for Brain Initiatives, Walter Reed Army Medical Center's Head Trauma Department (WRAMC), and the National Institutes of Health in a six-day celebration of "Brain Awareness Week 2003" in March. A special component of the program was designed and implemented specifically for high school students. Because of the program's expansion, 1200 students from Washington, DC, Maryland and Virginia had the opportunity to participate in lectures, activities and opportunities to interact with local neuroscientists. Students also got to see, touch and learn all about the human brain. Neuroscientists, medical professionals and technicians, and educators from the National Institutes of Health, AFIP Division of Neuropathology and Neuromuscular Pathology, WRAMC Department of Head Trauma partnered with NMHM and Dana to present lectures and hands-on activities for elementary, middle and high school students. Catherine Sasek, PhD, of the National Institute on Drug Abuse (NIDA) of NIH; Denise Pintello, PhD of NIDA of NIH; Anna Staton, PhD of NIDA of NIH; Dennis A. Twombly, PhD of National Institute on Alcohol Abuse and Alcoholism (NIAAA) of NIH; Roger Sorenson, PhD of NIAAA of NIH; Vishnu Purohit of NIAAA of NIH; Michael Rosenthal, PhD of the National Institute of Mental Health (NIMH) of NIH; Lisa Moy Martin and Alice Marie Stevens with the Head Trauma Department at Walter Reed Army Medical Center; NMHM's Archie Fobbs, curator of the Neuroanatomical Collection and Surinder Sandhu, PhD assistant curator of the Neuroanatomical Collection presented lectures, hands-on activities and technical demonstrations that highlight various brain functions or disturbances. Over 600 students participated in this the 6-day program.

The Museum partnered with the National Kidney Foundation of the National Capital Area for the second year in March to present "Project Prevention," a screening and education program designed to help individuals determine their risk for the development of kidney disease and screen for potential problems.

Teacher Workshop/Open House

Local area teachers and educators received a special preview of a guided tour that school students receive at the Museum. Museum staff members Adrianne Noe, Paul Sledzik, Elizabeth Lockett, and Jim Connor discussed ways that the Museum's collections are being used to help teachers address curriculum requirements in the classroom.

Tour/Docent Program

The Museum's docents continued to offer general guided tours on the weekend to walk-in

visitors on the second and fourth Saturday of each month. In addition to the general tour, which introduces visitors to the highlights of the exhibition galleries, the following Curriculum Connection tours were offered during 2002: "Human Body, Human Being" and "To Bind up the Nation's Wounds: Medicine During the Civil War." The "Forensics Mystery" workshops continue to be popular hands-on activities for students, families and adults.

Docents, Museum staff, and AFIP staff benefited from educational presentations made at monthly docent meetings. Elizabeth Lockett, and Bill Dischер of NMHM Human Developmental Anatomy Center talked about the collection and the earliest imaging work done to provide information for scientific research in January. In April, Annette R. Anderson, MS, RHIA, administrator of the Department of Repository and Research Services of AFIP, provide Health Insurance Privacy and Portability Act (HIPPA) training for Museum docents as required by AFIP. George Wunderlich, executive director of the National Museum of Civil War Medicine, gave a tour of his museum in May that provided descriptions of battlefield medicine that was practiced during this period. In August Paul Sledzik, Museum curator, presented a lecture on the Disaster Mortuary Operational Response Teams and the work that it does gathering and analyzing forensic evidence to identify victims of mass disasters. In September, Leslie Sobin, MD, chief, Gastrointestinal Pathology and director of Scientific Publications at AFIP presented a lecture on Endoscopy and Imaging of the Gastrointestinal Tract. In October, the docents view the film, "History of Battlefield Medicine" which was produce by the History Channel as part of its Modern Marvel series. This film provided an introduction to the exhibit, "Battlefield Surgery 101: From the Civil War to Vietnam" before its opening in November 2003. Mary Lou Luff from the Montgomery County Historical Society performed a first-person re-enactment of a 17th century homemaker describing treatment of illnesses and diseases using "Home Remedies from the Civil War Era".

EXHIBITIONS

Research Matters Exhibit

"Research Matters" is a permanent presence but changing exhibit established in 1986 to inform visitors of recent contributions by AFIP research to US military medicine and to public health. "Research Matters: A GI Journey" describes the nearly 2,000 year history of endoscopy, new technological advances in the field, and highlights the work of AFIP's Division of Gastrointestinal Pathology. "This exhibit is unique," said Leslie Sobin, MD, chief of AFIP's Division of Gastrointestinal Pathology and director of Scientific Publications. "It takes the mystery out of the process, while, at the same time, documents the historical development of medical technology." The exhibit features 10 traditional endoscopes borrowed from the Museum's more than 12,000 historical medical objects. The exhibit also includes several photographs and diagrams of the inner-workings of the new M2A "pill endoscope," as well as a video that illustrates endoscopic examination and endoscopic biopsy procedures. The M2A Capsule allows physicians to see parts of the small intestine that older conventional methods do not. Although it is the size of a pill and weighs less than 4 grams, the M2A consists of a light, camera, power source, and transmitter. The capsule-encased camera records two photographs per second for up to 8 hours, until it is excreted. Up to 50,000 images can be recorded on the pack worn by the patient, which are then downloaded onto a computer and analyzed by physicians. Given Imaging, Ltd. donated a capsule to the Museum in March 2003. AFIP pathologists continue to research the possible uses and advantages provided by advancements in endoscopic technology. A widely read AFIP publication is the "Atlas of Gastrointestinal Endoscopy and Endoscopic Biopsies." Photographs from this atlas are the source of much of the current exhibit's illustrations.

Temporary Exhibits

"Battlefield Surgery 101: From the Civil war to Vietnam" illustrates how the military operating room changed and improved from the Civil War (1860s) to Vietnam (1960s). More than 100 photographs and 19th- and 20th-century artifacts drawn exclusively from the Museum's historical archives and historical collections demonstrate the military operating room's evolution over the past 140 years and the challenges faced by the men and women who worked there. Recent medical advances are also on display, which are now being used by the US military to treat serious wounds in Iraq, Afghanistan and at WRAMC. The exhibit includes a video that focuses on how the helicopter drastically changed military medical care by transporting wounded soldiers more quickly during the Vietnam War, and how it later became an essential part of civilian trauma care. The exhibit's curators are Museum staff members Jim Connor and Michael Rhode. Rhode and Connor worked extensively with US Army Col David Lounsbury, MD, and Director of the Borden Institute, and retired US Army Col Ronald Bellamy, MD, Military

Medical editor at the Borden Institute, to develop the exhibit's themes and structure. The Borden Institute, also located on the campus of WRAMC, produced a catalogue to accompany the exhibit featuring additional information about military surgery.

Additions

Artist Carolyn Henne, a major American figurative artist of Richmond, Va, contributed her installation "Suspended Self-Portrait" to the Museum's "The Human Body, Human Being" exhibit. Henne fitted the internal information from the Visible Human female dataset to her own corresponding cross sections. She then painted the sections of onto 89 long sheets of clear vinyl and hung them about an inch apart from an aluminum frame. It enhances the artifacts already on display by providing a detailed look into the interior of the body. The fact that the piece was created using the Visible Human Dataset gives visitors an idea of the real-life application of scientific study and shows that this information is valuable and inspiring beyond the medical arena. The VHP can be further examined at a computer station in the "Human Body, Human Being" exhibit.

DEPARTMENT OF COLLECTIONS

The Collections Department of the NMHM preserves materials representing the broad subject areas related to the history and practice of American medicine, military medicine, and modern medical and health issues and research. Each collecting division specializes in different media and subject areas. The division's responsibilities are to (1) provide the highest level of professional care for the NMHM collections and their associated documentation; (2) collect objects, specimens, and related archival materials deemed significant and relevant to the mission of the NMHM; and (3) support research, exhibits, and public programs through access of collections. All collections areas within the Museum are collaborating to make use of AFIP/ARP Cooperative Registry Enterprise funding in order to develop an automated collections management and inventory tool.

Anatomical Collections Staff

Paul S. Sledzik, MS, Curator
Lenore Barbian, PhD, Assistant Curator

Anatomical Collections collects and preserves human and nonhuman medical, pathological, and anatomical specimens and associated materials documenting normal anatomy and the response to disease and injury.

Historical Collections Staff

James T. H. Connor, PhD, Assistant Director for Collections
Alan Hawk, Historical Collections Manager
Donna Quist, Assistant Historical Collections Manager
Gloria Feeney, Volunteer

Historical Collections collects, preserves and documents the material culture of healthcare, with an emphasis on military medicine. The collection is made available to both civilian and military researchers as well as for exhibits and loans to other institutions. Approximately 13,000 artifacts are included in the collection that documents the history of medicine from the 17th century to the present.

Nearly 200 artifacts were added to Historical Collections. Mr. John Listman donated a medic's bag used by the 986th Air Ambulance Detachment, Virginia Army National Guard during the Persian Gulf War. He also donated headgear worn when he was the Medical NCIOIC at the China Beach R & R center during the Vietnam Conflict, which will accompany his medic's bag acquired by the Museum in 1995. Upon the closing of the old Dover Port Mortuary, Delaware in December, Historical Collections acquired an X-ray machine and assorted autopsy instruments used to identify soldiers and others killed in action, or through accidents of war and other circumstances. Walter Reed Army Institute of Research transferred an example of the new Golden Hour blood container as well as an example of the Armed Services Blood Program box it is intended to replace. Recent developments in wound treatment were documented by the acquisition of a Quick Clot Adsorbent Haemostatic Agent package and a Hemcon (chitosan) bandage. CAPT (ret) Glenn Wagner, former AFIP director, donated his flyaway kit when he headed aircraft accident recovery and identification missions with the Aerospace Pathology Division. Numerous artifacts, including a large autoclave, used in biological warfare research programs at Ft Detrick, Maryland were also acquired.

In April, Dr. Manuel del Cerro of Pittsford, NY announced his intention to bequeath his

collection of 500 microscopes to the Museum's microscope collection. This collection, the biggest addition to the microscope collection since the donation of Dr. A.J.W. Kaas of Oude Niedorp, Netherlands in 1965, will include numerous examples of 20th century microscopes from manufacturers and countries not currently represented in the existing collection. When completed, this acquisition ensures that the Museum microscope holdings will continue John Shaw Billings' vision for a comprehensive collection documenting the development of the microscope from Antoni van Leeuwenhoek and Robert Hooke in the 17th century through to the present day.

The exhibit Battlefield Surgery 101 was researched and co-curated by J.T.H. Connor and Michael Rhode. Collections assistance for the artifacts in this exhibit was provided by Alan Hawk and Donna Quist. Historical Collection artifacts were also used to illustrate the history of endoscopy for the exhibit "Research Matters: A G.I. Journey" and history of military medicine for "Battlefield Surgery 101." This Research Matters exhibit was curated with collections assistance from Donna Quist.

Historical Collections loaned artifacts to the US Army Center of Military History-sponsored traveling exhibit, "Beyond Lewis and Clark, the Army Explores the West." The exhibit, which will be displayed in Virginia, Washington, Kansas and Missouri, featured a mid-nineteenth century medicine chest and the pocket surgical kit belonging to George Lord, Regimental Surgeon of Custer's 7th Cavalry at the Battle of Little Bighorn. Additional artifacts were loaned to the following museums: The Strategic Air And Space Museum, National Library of Medicine, the Richmond National Battlefield Park Service and The Cincinnati Museum Center. Photographs of microscopes from the Billings Microscope Collection provided the basis for the ARP/AFIP 2004 calendar. The calendar was produced with the assistance of Historical Collections personnel. Artifacts from the collection appeared in the History Channel documentary "JFK: The Presidency Revealed".

Deployment:
Alan Hawk, Historical Collections Manager, was on active duty with the US Navy Reserve in support of Operation Noble Eagle. He returned to the Museum on September 28, 2003.

OTIS HISTORICAL ARCHIVES

Archives Staff

Michael Rhode, Chief Archivist
Tabitha Oglesby, Assistant Archivist
Gloria Feeney, Volunteer

The Archives was successfully moved from temporary office space on the first floor and returned to M-018 with no losses or damages to the collection, or injuries to staff and re-opened in early January. Oglesby returned from maternity leave in the first week of March. Gloria Feeney finished working on organizing photographs transferred from the National Library of Medicine, arranged a collection of medical trade literature donated by Dr. Rabkin, and is currently arranging AFIP photographs transferred from the photography division. The major curatorial project was the exhibit "Battlefield Surgery 101," based on the OHA's photograph collections. Working with COL David Lounsbury, head of the Borden Institute, and Dr. Ronald Bellamy, the exhibit of over 100 photographs opened in the fall, and was soon followed by a catalogue produced by the Borden Center.

Substantial requests for information were handled, frequently regarding sensitive topics. The Vorwald Collection continues to be used for research for asbestosis lawsuits in spite of being open to the public for nearly two decades. Interest in the 1918 influenza epidemic has not yet peaked, and many requests were received to use images from the Archives, all of which are viewable on the website to facilitate research. Records on AFIP history have been provided throughout the year as required including historical posters and images for the Director's office. Research, mostly on military medicine, was conducted by or for 24-7 EMS, AEF Battlelab, Abraham Lincoln Presidential Library and Museum, Burns Archives, Chelsea House Publishers, Columbia College of Physicians, Editions Palantines, Engle Brothers Media, Enslow Publications, Environmental Profiles, GSW publishers, George Mason University, George Washington University, Glasshead Ltd., Goldfein and Hosmer, Granada Television, Harvard Divinity School, Hoggard Films/National Geographic, Homeland Protection Professional, Indiana University, Indiana University School of Medicine, Institut fur Geschichte und Ethik, Institute of Surgical Research, Johns Hopkins University, MODULU, Marshall Cavendish

Publishers, Maryland Historical Trust, Microscope Society of America, National Library of Medicine - History of Medicine Division, Penguin/Putnam, Ripley Entertainment, Rosen Publishing Group, Smithsonian's National Museum of Natural History, St. Francis University, Stryker Trauma, PBS's Thirteen/WNET, Timeline/Ohio Historical Society, Toronto Life magazine, Trine and Metcalf law firm, USCAP, University of Redlands History Dept., University of Arizona, University of Colorado, University of Mississippi, University of California - Santa Barbara, University of Maryland, Viking/Penguin, Weitz and Luxenberg, Wills Eye Hospital Department of Pathology, and the Yale University School of Medicine.

With the support of the AFIP/ARP Cooperative Enterprise Registry, computerized cataloguing on the collection level has continued in the shelf inventory and in other collecting areas. Cataloguing for the General Medical Products Information Collection, Medical ephemera, New Contributed photographs, audiovisual collection, AFIP Historical Files and others was done. Implementation of a comprehensive computer catalogue for the entire Museum began. Several collections were arranged and described with finding aids written for them including Rabkin's trade literature collected late in 2002. Oglesby is processing the Bahr electron microscopy collection due to an arrangement with the Electron Microscope Society of America (now simply the Microscope Society of America) to become the repository for electron microscopy records. New material was acquired included Osborne's Philippine Insurgency photographs and diaries, Reinhard's Korean War surgery records, Lucas' WW2 dental records, and Vietnam drug abuse audiotapes, also videotapes from the Presidio, photographs from AFIP's photography department, and books. Museum records from staff members were added to the archives. A significant Archives presence including the Guide to the Collections of the Museum on the website has become the main way researchers begin to use the archives, and several finding aids were added to the website. More archival collections were listed in the Library of Congress' National Union Catalogue of Manuscript Collections (NUCMC), ensuring wider researcher use of the collections. Rhode served on the AFIP's Institutional Review Board and HIPAA Committee. Minor assistance was provided for the AFIP 2003 calendar.

OFFICE OF THE REGISTRAR

STAFF

Michael Aurele Simons, MA

This office tracks incoming donations to the National Museum of Health and Medicine and well as tracking outgoing and incoming loans to and from other institutions and individuals, insuring these transactions are conducted under pertinent DoD regulations and accepted museum standards. The Registrar Office monitors collections storage facilities and exhibit spaces through the installation of a new ONSET environmental monitoring system and maintains the condition of the collection through daily, weekly and monthly inspections as needed. Conservation needs of incoming and outgoing loans are assessed with minor conservation treatments being performed as needed.

During 2003 Mr. Simons traveled to Michigan State University, East Lansing; The University of Michigan, Ann Arbor with the Curator of the Neuroanatomical Collections to procure two collections for the NMHM. He also oversaw the collection of objects from the dismantling of the biological weapons manufacturing facilities at Fort Detrick, Maryland and the former Dover Port Mortuary - Dover Air Force Base, Delaware. The Registrar Office hosted two summer interns provide by the Washington, DC Public Schools.

Accessions

There were a total of 66 accessions ranging from a single bandage to collections totaling over 400 separate objects. Individuals and institutions donating material to the Museum include National Library of Medicine; Alan and Mary Frame; Michael Rhode – Archivist, National Museum of Health and Medicine; Dr. Manuel del Cerro; Dr. Robert O. Thiele; Dr. William Cruce; Nils Osmar; Given Imaging, Inc.; Dr. Paul G. Bartels; Ms. Jean Simmons; College of Medicine, University of Tennessee – Health Science Center; Sol Pargement; Dorothy Smith; Dr. Robin A. Cooke; Dr. Alan I. Hecht; Col. William Clarke; Dr. Waldo R. Fisher; General Motors Corporation (GMC); Dr. Thomas M. Brown; Dr. Jack M. Layton; B. J. Shatinsky; John Listman; Dr. Steven Zehren; Dr. Herbert J. Quigley; Dr. Samuel Berkowitz; Dr. C. Miller Fisher; Naval Medical Center - Tissue Bank; Condomania; Wisconsin Veterans Museum; Robert and Nora Reinhardt; Charles Larrabee; Saint Michaels College; Sidney Weiser; Z-Medica; Matt Hunter; Lorenz Zimmerman; William Rodriguez – OAFME, AFIP; Hemcon; LtC. Francisco J. Rentas – WRAIR; Alexis Kobrin; Dr. Charles Mixter III; VernaCare; Walter Reed Army Medical Center;

Alan Hawk – Manager, Historical Collections, National Museum of Health and Medicine; Anne R. Ohlbaum; Dr. John I Johnson – Michigan State University; Department of Radiologic Pathology, AFIP; Dover Port Mortuary – Dover Air Force Base; Karen Russell; CAPT Glenn N. Wagner – Director, AFIP; Fort Detrick; Markus Ring; MicroscopePen.com; Nancy Bedell; Dr. John J. Eckberg

DEPARTMENT OF RESEARCH COLLECTIONS

The Research Collections support two anatomical areas: developmental and neuroanatomical. Their role is to acquire, preserve, and encourage the use of major research collections for all qualified members of the research community. Continued stimulation of new extramurally-funded hypothesis-driven research is the salient priority. The Human Developmental Anatomy Center has entered its 5th year of funding by the National Institutes of Child Health and Human Development, the National Center for Research Resources, and the Office of Research on Women's Health. The Neuroanatomical Collections continue to be the recipient of National Science Foundation funding for electronic collections development

Human Developmental Anatomy Center Staff

Elizabeth C. Lockett, Imaging Specialist/Collections Manager
William F. Discher, Imaging Specialist
Kumudini Mayur, PhD Imaging Scientist

Neuroanatomy Collections Staff

Archibald J. Fobbs, Curator
Surinder Sandhu, NSF Funded Project Technician
Stephen Schiaffino, PhD, Volunteer.

Tours

The HDAC and the Neuroanatomy Collections hosted 110 tours during 2003.

Education and Collections Use

A National Science Foundation Grant allowed the NMHM, in conjunction with the universities of Wisconsin-Madison, and Michigan State, to implement an innovative neuroanatomical website. The information presented reflects the mission of the Museum. Collection inquiries via the website increased 60 percent over those of 2002. Requests for collection images, scheduled visits to the collections division and to the Museum have all increased as well. Educators continue to report that the website is a useful curriculum development resource for science projects and for answering structural and functional questions about the brain. The website widely publicizes images and information about the existence, contents, and value of the brain collections. Via the Internet, information about sectioned brain specimens at the three institutions will be presented and promoted electronically on the Brain Collection home page http://www.brainmuseum.org, with additional information on ancillary sites. Four sites are interlinked; all can be reached from one another.

Extensive alphanumeric data from Museum collection specimens are used worldwide via Internet presentation. Interns with the Neuroanatomical Collections department are able to gain experience with this technique using software such as AMIRA; data and images from Museum collection specimens are made available for use in education at all levels. This is done via the Internet or via physical diskettes.

Magnetic Resonance Imaging (MRI) scans provide volumetrically and spatially accurate data about the internal architecture of brains of rare or difficult-to-process species of animals. The spatial data can be analyzed in 3-dimensional models. Student interns obtain scans of collections items using software such as Adobe Photoshop and Surf Driver, with which they commence 3-D modeling. The project has provided opportunities for training interns in the use of data storage, electronic imaging, and the acquisition of neuroanatomical data, including 3-dimensional surface render modeling.

The Neuroanatomical Collections were instrumental in providing educational experiences for students from Paint Branch High School in Silver Spring, Maryland, Holmes Middle School in Alexandria, Virginia, and The Thomas Pyle Middle School in Montgomery County, Maryland. The Howard County Technology Magnet Applications and Research Laboratory Program has partnered with Neuroanatomical Collections and the Human Developmental Anatomy Center to promote internships for high school students of Howard County. This relationship provides research opportunities for students attending the county's technical magnet programs at Long Reach and Paint Branch High schools in Columbia, and River Hill High School in Clarksville,

Maryland.

COURSES TAUGHT

The staff of the Anatomical Collections conducted the 16th annual Forensic Anthropology course at the Uniformed Services University of the Health Sciences from May 5 through 9, 2003. Participants numbered 54. Planning for the 2004 course was undertaken. The course will be held at the National Transportation Safety Board Academy in Ashburn, Virginia.

HDAC and other Museum staff: Embryology, Imaging and Education IV, May 2003.

Biology Instructors' Developmental Anatomy Teaching Skills Workshop (with Carnegie Institute of Washington and the Society for Developmental Biology), November 2003.

In March 2003, Paul Sledzik and Lenore Barbian served as laboratory instructors for the forensic anthropology component of the Forensic Identification and Emerging Technologies course sponsored by the Department of Oral and Maxillofacial Pathology. This course had 150 participants.

PRESENTATIONS

1. January 2003: Ft Detrick, Md, "Bones, bodies, and bullets: a forensic scientist's perspective on the Civil War," PS Sledzik.
2. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Fifteen years of forensic anthropology short courses at the National Museum of Health and Medicine/AFIP," L Barbian, PS Sledzik.
3. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Victim identification following the crash of United Airlines Flight 93," PS Sledzik, W Miller, DC Dirkmaat, JL deJong, PJ Kauffman, DA Boyer, FP Hellman.
4. February 2003: Chicago, Ill, American Academy of Forensic Sciences, "Roles of the biological anthropologist in the response to the Crash of United Airlines Flight 93," MR London, L Barbian, D Mulhern, PS Sledzik, DC Dirkmaat, L Fulginiti, JT Hefner, NJ Sauer.
5. February 2003: Chicago, Ill, American Academy of Forensic Sciences, Multidisciplinary Symposium, "The federal response to mass fatality incidents," PS Sledzik.
6. February 2003: Chicago, Ill, American Society of Forensic Odontology Annual Meeting, "Victim identification following the crash of United 93," PS Sledzik.
7. March 2003: Arlington, Va, National Science Foundation Women in Science Celebration Keynote, "Science and the museum," A Noe.
8. March 2003: Washington, DC, US/Canadian Academy of Pathology, Specialty Conference on the Pathology of War, "Civil War medicine," PS Sledzik.
9. March 2003: Washington, DC, US/Canadian Academy of Pathology, "A fighting chance: 'modern' medicine and modern warfare in the twentieth century," JTH Connor.
10. March 2003: Washington, DC, National Museum of Health and Medicine/AFIP, "Brain Awareness Week," AJ Fobbs, JM Burns, S Sandhu, S Saluke, A Noe.
11. April and September 2003: Ashburn, Va, National Transportation Safety Board Academy, Transportation Disaster Assistance Course, "Forensic identification," PS Sledzik.
12. April 2003: Washington, DC, Institute of Medicine, National Academies of Science, Workshop on the Medicolegal Death Investigation System, "Disaster Mortuary Operational Response Teams," PS Sledzik.
13. May 2003: Boston, Mass, American Association for the History of Medicine, "The business of disseminating homeopathic medical knowledge," JTH Connor.
14. May 2003: Washington, DC, National Museum of Health and Medicine/AFIP, Ethiopian Liaison Officer Presentation to the United States Embassy, Ethiopia, AJ Fobbs.
15. June 2003: Bethesda, Md, National Library of Medicine, Opening Ceremonies for *Visionary Anatomies*, "Envisioning anatomy in historical and sociological perspective," A Noe.
16. June 2003: Washington, DC, National Museum of Health and Medicine/AFIP, Presidential Classroom Group, AJ Fobbs.
17. June 2003: London, England, American Association for the History of Medicine and The Wellcome Trust Centre for the History of Medicine, University College Conference on Anglo-American Medical Relations: Historical Insights, "Curating America's premier medical museum: the legacy of John S. Billings to the professional and public understanding of medicine," JTH Connor, M Rhode.
18. June 2003: Washington, DC, National Museum of Health and Medicine/AFIP, National History Day Ceremonies, NMHM/AFIP staff.

19. July 2003: Washington, DC, National Museum of Health and Medicine/AFIP, National Youth Leadership Forum on Medicine Tour, AJ Fobbs.
20. July 2003: Washington, DC, AFIP Professional Staff Conference, "Curating America's premier medical museum: the legacy of John S. Billings to the professional and public understanding of medicine," JTH Connor, M Rhode.
21. July 2003: Manchester, England, University of Manchester, Society for the Social History of Medicine Conference on Innovating Medicine: Medical Technologies in Historical Perspective, "Tissues by sunlight: J.J. Woodward, biomedical science, and the convergent technology of photomicrography in Victorian America," JTH Connor.
22. August 2003: Arlington, Va, International Association of Flight Safety Investigators, Centennial Lecture, "The first aviation fatality," A Noe.
23. August 2003: Baltimore, Md, Westside Renaissance Breakfast, "A medical museum in Baltimore," A Noe.
24. August 2003: Germantown, Md, International Monetary Fund Summer Camp, Bretton Woods Recreation Center, AJ Fobbs.
25. October 2003: Kingston, Ontario, Canadian Science and Technology Historical Association, "Innovation, safety and 'risk' in Victorian culture: anaesthetic technology revisited," JTH Connor.
26. October 2003: Washington, DC, National Museum of Health and Medicine/AFIP, Howard Hughes Medical Institute Precollege Science Education Program, "Skeletons in cabinets: anatomical collections and forensic anthropology," L Barbian.
27. November 2003: Washington, DC, National Museum of Natural History, Guild of Natural Science Illustrators Meeting, "Photographing embryos," WF Discher, HD Morris.
28. November 2003: New Orleans, La, Society for Neuroscience, "Globus pallidus and substantia nigra form a contiguous 'extended pallidum' in brains of whales and dolphins (cetacea)," JI Johnson, RC Switzer III, KD Sudheimer, FM Ferreira, AJ Fobbs Jr., L Marino.

PUBLICATIONS

See the Cumulative Publications List for titles of 2003 publications by Museum staff.

COLLABORATORS IN RESEARCH AND EDUCATION PROJECTS

Anatomical Travelogue, Inc., New York, NY

Carnegie Institute of Washington, Washington, DC

Department of Anatomy, Michigan State University

Department of Physiology, University of Wisconsin-Madison

Department of Physiology and Physics, Howard University College of Medicine

Division of Biology, California Institute of Technology

Johns Hopkins University School of Medicine, Center of Magnetic Resonance Microimaging, Baltimore, Md

Louisiana State University, Health Sciences Center, New Orleans, La

National Institutes of Health, Nuclear Magnetic Research Center, Bethesda, Md

National Institutes of Health, National Library of Medicine, Bethesda, Md

Neuroscience and Behavioral Biology Program, Emory University, Atlanta, Ga

Neuroscience Associates, Inc.

Society for Developmental Biology, Bethesda, Md

PROFESSIONAL ACTIVITIES

Official Trips

1. May 2003, Boston, Mass, American Association for the History of Medicine, JTH Connor.
2. June 2003, "Anglo-American Medical Relations: Historical Insights," co-organized by the American Association for the History of Medicine and The Wellcome Trust Centre for the History of Medicine at University College of London, London, JTH Connor (self-funded).
3. July 2003, Society for the Social History of Medicine conference on "Innovating medicine: medical technologies in historical perspective," University of Manchester, JTH Connor (self-funded).
4. June 2003, "Anglo-American Medical Relations: Historical Insights," co-organized by the American Association for the History of Medicine and The Wellcome Trust Centre for the

History of Medicine at University College of London, London, M Rhode (self-funded).

Editorial Work

1. A Hawk (peer reviewer), National Historical Publications and Records Commission, Proposal Number: 5346-DC, The Murray Bowen Audiovisual Collection, The Bowen Center for the Study of the Family, December 2003.
2. EC Lockett, A Noe, for Stephen Gilbert. "An Illustrated History of Embryology," in press.
3. EC Lockett, A Noe, for Alexander Tsiaras. "From Conception to Birth," New York, NY: Doubleday Press; 2003.

Exhibits and Exhibit Support

1. JTH Connor, M Rhode, JC Crane. "Battlefield Surgery 101: From the Civil War to Vietnam" exhibit, National Museum of Health and Medicine, Washington, DC, November 2003-indefinite.
2. L Barbian provided curatorial support for "Battlefield Surgery 101: From the Civil War to Vietnam."
3. EC Lockett, design and curation, "From a Single Cell" permanent exhibit on human development, NMHM, Washington, DC.
4. EC Lockett provided images and data for exhibition "from Conception to Birth" temporary exhibit of visualizations of human development from photos, MR and CT data. NMHM, Washington, DC.
5. EC Lockett provided images for exhibition "Changing the Face of Medicine. Celebrating America's Women Physicians," National Library of Medicine, Bethesda, Md.
6. M Simons, Registrar support. The Museum borrowed one object from WRAMC for exhibit purposes.
7. M Simons, Registrar support. The Museum loaned a total of 19 objects to 4 borrowers for exhibit purposes. Among these were loans to the Cincinnati Museum Center; the Virginia Historical Society; Strategic Air Museum; and the National Library of Medicine.

Collections Research Requests

Research Requests: 321

Researcher days: 572

Other Activities

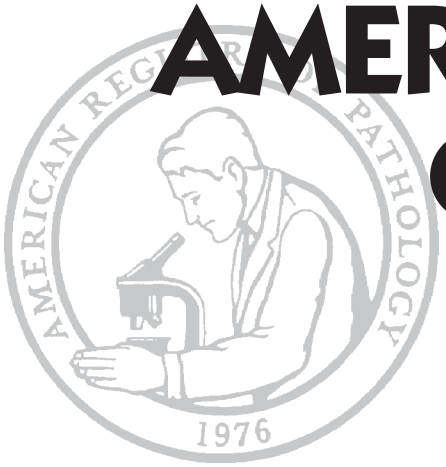
The staff of the anatomical collections provided 18 lectures/presentations to school groups at the NMHM/AFIP and in the DC metropolitan area. They also provided support to the OAFME at Dover Port Mortuary for victim identification.

L Barbian analyzed a sample of skeletons from the Bulkeley Family Tomb report for the Office of the Connecticut State Archaeologist.

P Sledzik continued his involvement as a member of the board of directors of the Ellis Kerley Forensic Sciences Foundation and as a consultant to the National Center for Missing and Exploited Children. He also served as program chair for the Physical Anthropology section of the American Academy of Forensic Sciences.

Public Affairs Reports

1. Joseph Shapiro. Interview of Rhode for "Disabled Vets" for National Public Radio's "Morning Edition," May 26, 2003.
2. Hank Silverberg. Interview of Rhode and Connor for *Battlefield Surgery 101* for WTOP radio, November 28, 2003.
3. Dennis Ryan. Interview of Rhode and Connor for *Battlefield Surgery 101* for "A Cut Above, " *Ft. Meyer Pentagram*, December 5, 2003.
4. Lee Bowman. Interview of Rhode and Connor for *Battlefield Surgery 101* for Scripps Howard News Service, December 2003, appeared in 15 newspapers and 1 television show.
5. Damon Adams. Interview for "Framing History: A Photo Collection Contains a Study of Our Medical Past," on Stanley Burns photograph collection in *AMNews* (December 8, 2003), online at http://www.ama-assn.org/amednews/2003/12/08/prsa1208.htm.
6. Numerous interviews with Connor for community newspapers concerning collections donations.



AMERICAN REGISTRY OF PATHOLOGY

William A. Gardner Jr, MD
Executive Director
Date of Appointment — 1 August 2002

AMERICAN REGISTRY OF PATHOLOGY

ACCOMPLISHMENTS

1. In 2003, ARP published the concluding volume of the Atlas of Tumor Pathology Series III (Tumors of the Intestines). Work also continued on the first 2 volumes of Series IV of the Tumor Fascicles: *Tumors of the Kidney, Bladder and Related Urinary Structures* (William M. Murphy, David J. Grignon, Elizabeth Perlman) and *Tumors of Bones and Joints* (K. Krishnon Unni, Lester Wold, Cary Y. Inwards, Lars-Gunner Kindblom, Julia Bridge); and the third volume of the Non-Tumor Series, *Placental Pathology* (Frederick T. Kraus, Raymond W. Redline, Deborah J. Gersell, D. Michael Nelson, Jeffrey M. Dicke).
2. The ARP Editorial Office and staff have been relocated to a site in Silver Spring, Md.
3. At the request of AFIP, the ARP Bookstore and Publications Department were relocated to Rockville, Md.
4. The generous contributions of Dr. and Mrs. Waine Johnson, and further funds solicited by ARP, established the Elson Helwig Chair in Dermatopathology, the first endowed position at the AFIP. Dr. George Lupton was appointed to the Helwig Chair at the Annual Stowell Lecture. The 2003 event featured a celebration of the life and times of Dr. F.K. Mostofi, with presentations from Dr. Ian M. Thompson, Jr, MD, professor and chair of the Urology Division at the University of Texas Health Sciences Center, and Dr. Donald Coffey, director of the Brady Institute of Urological Research. The F.K. Mostofi Fellowship Fund was established to provide a one-year fellowship in GU Pathology.
5. The year-long Callender-Binford fellowships of the AFIP were reestablished, as was the one-month fellowship program, appropriately renamed the Donald West King fellowship. Two dozen residents selected for the current year will visit various departments within the AFIP. The fellows represent 22 medical institutions within the United States. Six Callender-Binford lectures are scheduled for the current year.
6. ARP continues to provide 250 contract personnel to AFIP, although at one time this number was 280. Currently, there are 340 ARP employees in 37 departments and divisions throughout the AFIP, including 100 in the DNA Registry. These positions include scientists, forensic pathologists, toxicologic specialists, radiologists, and administrative support staff.

CHALLENGES

As part of the proposed AFIP Business and Transformation Plans, the AFIP would take over billing and collections for the Civilian Consultation Program. The ARP Board and AFIP Scientific Advisory Board have expressed concerns regarding the potential negative effects of this plan. The ARP Executive Director has attended meetings of the AFIP Board of Governors and the Scientific Advisory Board. He has actively engaged the AFIP Directorate regarding the proposed Business and Transformation Plans, and has met with the Army Surgeon General on several occasions to voice the concerns and suggestions of the ARP Board.

When they are formally notified of the extent to which the AFIP Transformation Plans will be implemented, the ARP Officers and Planning Committee will have a joint meeting with the AFIP leadership to chart a course for future activities.

2003 CUMULATIVE PUBLICATIONS LIST

2003 CUMULATIVE PUBLICATIONS LIST

In 2003, the medical and scientific staff of the AFIP published **228 articles** in professional journals and **158 abstracts**. They contributed **32 chapters** to published books, and were authors or editors of **10 published books**. Miscellaneous publications included approximately **11 course syllabuses**, **4 newsletter issues**, **4 CD-ROMs**, and **7 websites**. Details of these publications appear below. Authors are listed alphabetically within departments, divisions, offices, etc., which are also listed alphabetically.

ARMED FORCES MEDICAL EXAMINER, OFFICE OF (OAFME)

Journal Articles

1. Baker AM, Johnson DG, Levisky JA, Hearn WL, Moore KA, Levine B. Fatal diphenhydramine concentrations in infants. *J Forensic Sci*. 2003;48:425-428.
2. Gustafson RA, Levine B, Stout PR, Klette KL, George MP, Moolchan ET, Huestis MA. Urine cannabinoid detection times following controlled oral administration of D^9- tetrahydrocannabinol in humans. *Clin Chem*. 2003;49:1114-1124.
3. Labovich MC, Duke JB, Ingwersen KM, Roath DB. Management of a multinational mass fatality incident in Kaprun, Austria: a forensic medical perspective. *Mil Med*. 2003;168:19-23.
4. Lambert EW, Simpson RB, Marzouk A, Unger DV. Orthopaedic injuries among survivors of USS Cole attack. *J Orthop Trauma*. 2003;17:436-441.
5. Moore KA, Levine B, Fowler DR. Prediction of impairment from urine benzoylecgonine concentrations. *J Anal Toxicol*. 2003;27:383-384.

Abstract

Pearse LA, Potter RN. Mortality surveillance for emerging infection-related deaths in the Armed Forces. International Conference of Emerging Infectious Diseases, Atlanta, Ga, 2003.

Book

Levine B, ed. *Principles of Forensic Toxicology*. 2nd ed. Washington, DC: AACC Press; 2003.

Book Chapter

Moore KA, Levine B. The impact of chirality in pharmacokinetics and therapeutic drug monitoring. In: Aboul-Enein HY, Dekker M, eds. *Separation Techniques in Clinical Chemistry*. New York, NY: Marcel Dekker; 2003:39-161.

BIOCHEMICAL PATHOLOGY, DIVISION OF

Abstract

Fishbein WN, Merezhinskaya N, Ogunwuyi S. Presence and location of 3 major lactate transporters in human white blood cells. HUPO 2nd Annual and IUBMB 19th Joint World Congress, Program Supplement: 26.

BIOPHYSICAL TOXICOLOGY, DIVISION OF

Journal Articles

1. Centeno JA, Pestaner JP, Omalu BI, Torres NL, Field F, Wagner G, Mullick FG. Blood and tissue concentration of cesium after exposure to cesium chloride: a report of two cases. *Biol Trace Elem Res*. 2003;94:97-104.
2. Gaddipati JP, Rajeshkumar NV, Grove JC, Maharaj SV, Centeno JA, Maheshwari RK, Jonas WB. Low-dose cadmium exposure reduces human prostate cell transformation in culture and up-regulates metallothionein and MT-1G mRNA. *Nonlinearity Biol Toxicol Med*. 2003;1:199-212.
3. Tchounwou PB, Newsome C, Glass K, Centeno JA, Leszczynski J, Bryant J, Okoh J, Ishaque A, Brower M. Environmental toxicology and health effects associated with dinitrotoluene exposure. *Rev Environ Health*. 2003;18:1-27.
4. Tchounwou PB, Patlolla AK, Centeno JA. Carcinogenic and systemic health effects associated with arsenic exposure: a critical review. *Toxicol Pathol*. 2003;31:1-14.
5. Todorov TI, Yamaguchi Y, Morris MD. Effect of urea on polymer buffer solution used for the electrophoretic separations of nucleic acids. *Anal Chem*. 2003;75:1837-1843.

Abstract

Centeno JA, Mullick FG, Ejnik JW. Medical geology: an emerging discipline in support of environmental and military medicine. Natural Science and Public Health: Prescription for a Better Environment. April 1-3, 2003; US Geological Survey, Reston, Va.

Book Chapter

Finkelman RB, Belkin HE, Centeno JA, Zheng BS. Geological epidemiology: coal combustion in China. In: Skinner CH, Berger AR, eds. *Geology and Health: Closing the Gap*. New York, NY: Oxford University Press; 2003:45-50.

Report

Centeno JA. *Marcopper Mine Tailings Spill: Environmental Health Assessment for Marinduque Province, The Philippines*. Prepared by Armed Forces Institute of Pathology, Uniformed Services University of the Health Sciences, US Naval Health Research Center, US Environmental Protection Agency, and US Geological Survey, September 2003.

BIOPHYSICS, DIVISION OF

Journal Article

Potter K. Magnetic resonance microscopy approaches to molecular imaging: sensitivity versus specificity. *J Cell Biochem*. 2003;39:147-153.

Abstracts

1. Oliver WR, Potter K, McLean I, Fowler D, Downs J. Mapping retinal hemorrhages with magnetic resonance microscopy. *Proc Int Soc Magn Reson Med*. 2003;11:891.
2. Pessanha B, Potter K, Kolodgie FD, Farb A, Mont E, Burke AP, Virmani R. Identification of necrotic core area in fibrous cap atheromas by ex vivo MRI: possible surrogate measure of plaque vulnerability. *Proc Int Soc Magn Reson Med*. 2003;11:1724.
3. Potter K, Anderson P, Isogai N, Landis WJ. Characterization of tissue-engineered middle phalanx by magnetic resonance microscopy. *Proc Int Soc Magn Reson Med*. 2003;11:890.
4. Potter K, Cunningham RE, O'Leary TJ. Magnetic resonance microscopy of lymph node metastases. *Mod Pathol*. 2003;16:326A. Abstract 1491.
5. Thali MJ, Dirnhofer R, Potter K. Forensic MR microscopy: analysis of blunt force trauma in skin and subcutaneous fat tissue. *Proc Int Soc Magn Reson Med*. 2003;11:886.
6. Xu L, Rait VK, Mason JT, O'Leary TJ. Effect of antigen retrieval on the antigenicity of ribonuclease A: a model protein study. *Lab Invest*. 2003;83:328A.

CARDIOVASCULAR PATHOLOGY, DEPARTMENT OF

Journal Articles

1. Aklog L, Nifong LW, Hebeler RF, Galbraith TA, Chitwood WR, Realyvasquez F, Virmani R. Sutureless mitral valve repair using nitinol clip technology. *Heart Surg Forum*. 2003;6:S22.
2. Ardehali H, Farb A, Brown C, Schulman S. Acute thrombosis of a separate major coronary artery during initially successful thrombolytic therapy. *Int J Cardiol*. 2003;89:97-99.
3. Burke AP, Virmani R, Galis G, Haudenschild CC, Muller JE. 34th Bethesda Conference: Task Force #2—What is the pathologic basis for new atherosclerosis imaging techniques? *J Am Coll Cardiol*. 2003;41:1874-1886.
4. Cheneau E, John MC, Fournadjiev J, Chan RC, Kim HS, Leborgne L, Pakala R, Yazdi H, Ajani AE, Virmani R, Waksman R. Time course of stent endothelialization after intravascular radiation therapy in rabbit iliac arteries. *Circulation*. 2003;107:2153-2158.
5. Farb A, Burke AP, Kolodgie FD, Virmani R. Pathological mechanisms of fatal late coronary stent thrombosis in humans. *Circulation*. 2003;108:1701-1706.
6. Guagliumi G, Farb A, Musumeci G, Valsecchi O, Tespili M, Motta T, Virmani R. Images in cardiovascular medicine. Sirolimus-eluting stent implanted in human coronary artery for 16 months. Pathological findings. *Circulation*. 2003;107:1340-1341.
7. Guagliumi G, Virmani R, Musumeci G, Motta T, Valsecchi O, Bonaldi G, Saino A, Tespili M, Greco N, Farb A. Drug-eluting versus bare metal stents: long-term human pathology. Findings from different coronary arteries in the same patient. *Ital Heart J*. 2003;4:713-720.
8. Kay IP, Ligthart JM, Virmani R, van Beusekom HM, Kozuma K, Carter AJ, Sianos G, van der Giessen WJ, Wardeh AJ, de Feyter PJ, Serruys PW. The black hole: echolucent tissue observed following intracoronary radiation. *Int J Cardiovasc Intervent*. 2003;5:137-142.
9. Kolodgie FD, Gold HK, Burke AP, Fowler DR, Kruth HS, Weber DK, Farb A, Guerrero LJ, Hayase M, Kutys R, Narula J, Finn AV, Virmani R. Intraplaque hemorrhage and progression of coronary atheroma. *N Engl J Med*. 2003;349:2316-2325.
10. Kolodgie FD, Petrov A, Virmani R, Narula N, Verjans JW, Weber DK, Hartung D, Steinmetz N, Vanderheyden JL, Vannan MA, Gold HK, Reutelingsperger CP, Hofstra L, Narula J. Targeting of apoptotic macrophages and experimental atheroma with radiolabeled annexin V: a technique with potential for noninvasive imaging of vulnerable plaque. *Circulation*. 2003;108:3134-3139.

11. Lesser JR, Johnson K, Lindberg JL, Reed J, Tadavarthy SM, Virmani R, Schwartz RS. Images in cardiovascular medicine. Myocardial rupture, microvascular obstruction, and infarct expansion: elucidation by cardiac magnetic resonance. *Circulation*. 2003;108:116-117.
12. Naghavi M, Libby P, Falk E, Casscells SW, Litovsky S, Rumberger J, Badimon JJ, Stefanadis C, Moreno P, Pasterkamp G, Fayad Z, Stone PH, Waxman S, Raggi P, Madjid M, Zarrabi A, Burke A, Yuan C, Fitzgerald PJ, Siscovick DS, de Korte CL, Aikawa M, Juhani Airaksinen KE, Assmann G, Becker CR, Chesebro JH, Farb A, Galis ZS, Jackson C, Jang IK, Koenig W, Lodder RA, March K, Demirovic J, Navab M, Priori SG, Rekhter MD, Bahr R, Grundy SM, Mehran R, Colombo A, Boerwinkle E, Ballantyne C, Insull W Jr, Schwartz RS, Vogel R, Serruys PW, Hansson GK, Faxon DP, Kaul S, Drexler H, Greenland P, Muller JE, Virmani R, Ridker PM, Zipes DP, Shah PK, Willerson JT. From vulnerable plaque to vulnerable patient: a call for new definitions and risk assessment strategies: part I. *Circulation*. 2003;108:1664-1672.
13. Naghavi M, Libby P, Falk E, Casscells SW, Litovsky S, Rumberger J, Badimon JJ, Stefanadis C, Moreno P, Pasterkamp G, Fayad Z, Stone PH, Waxman S, Raggi P, Madjid M, Zarrabi A, Burke A, Yuan C, Fitzgerald PJ, Siscovick DS, de Korte CL, Aikawa M, Juhani Airaksinen KE, Assmann G, Becker CR, Chesebro JH, Farb A, Galis ZS, Jackson C, Jang IK, Koenig W, Lodder RA, March K, Demirovic J, Navab M, Priori SG, Rekhter MD, Bahr R, Grundy SM, Mehran R, Colombo A, Boerwinkle E, Ballantyne C, Insull W Jr, Schwartz RS, Vogel R, Serruys PW, Hansson GK, Faxon DP, Kaul S, Drexler H, Greenland P, Muller JE, Virmani R, Ridker PM, Zipes DP, Shah PK, Willerson JT. From vulnerable plaque to vulnerable patient: a call for new definitions and risk assessment strategies: part II. *Circulation*. 2003;108:1772-1778.
14. Oesterle SN, Reifart N, Hayase M, Hauptmann E, Low R, Erbel, Haude M, Dirsch O, Schuler GC, Virmani R, Yeung AC. Catheter-based coronary bypass: a development update. *Catheter Cardiovasc Interv*. 2003;58:212-218.
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